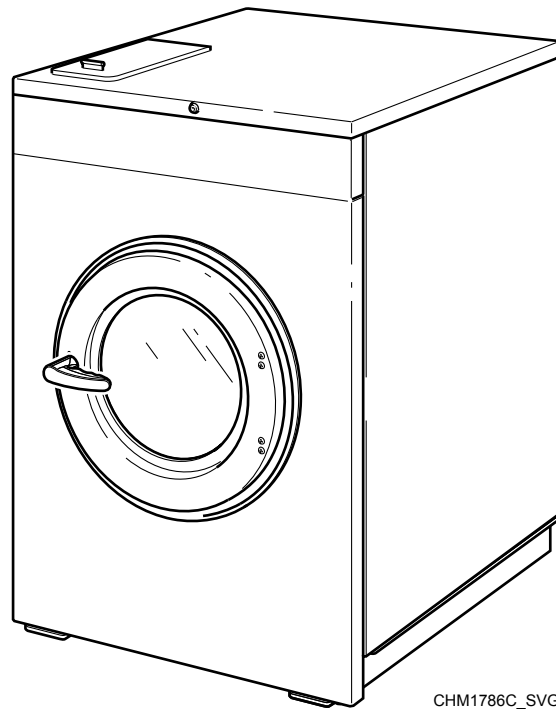


# Washer-Extractors

Cabinet Hardmount

Design 2 and 3 Models

Refer to Page 8 for Model Identification



CHM1786C\_SVG

**Original Instructions**

**Keep These Instructions for Future Reference.**

(If this machine changes ownership, this manual must accompany machine.)



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# Safety Information

## Explanation of Safety Messages

Precautionary statements (“DANGER,” “WARNING,” and “CAUTION”), followed by specific instructions, are found in this manual and on machine decals. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

	<b>DANGER</b>
Indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.	
	<b>WARNING</b>
Indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.	
	<b>CAUTION</b>
Indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.	

Additional precautionary statements (“IMPORTANT” and “NOTE”) are followed by specific instructions.

**IMPORTANT:** The word “IMPORTANT” is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

**NOTE:** The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

## Important Safety Instructions



### WARNING


**To reduce the risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:**

W023


- Read all instructions before using the washer.
- Install the washer according the INSTALLATION instructions. Refer to the GROUNDING instructions in the INSTALLATION manual for the proper grounding of the washer. All connections for water, drain, electrical power and grounding must comply with local codes and be made by licensed personnel when required. It is recommended that the machine be installed by qualified technicians.
- Do not install or store the washer where it will be exposed to water and/or weather.
- To prevent fire and explosion, keep the area around machine free from flammable and combustible products. Do not add the following substances or textiles containing traces of the following substances to the wash water: gasoline, kerosene, waxes, cooking oils, vegetable oils, machine oils, dry-cleaning solvents, flammable chemicals, thinners, or other flammable or explosive substances. These substances give off vapors that could ignite, explode or cause the fabric to catch fire by itself.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such a period, before using a washing machine or combination washer-dryer, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable, do not smoke or use an open flame during this time.
- To reduce the risk of an electric shock or fire, DO NOT use an extension cord or an adapter to connect the washer to the electrical power source.
- Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children. This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance. This is a safety rule for all appliances.
- DO NOT reach and/or climb into the tub or onto the washer, ESPECIALLY if the wash drum is moving. This is an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.
- Never operate the washer with any guards, panels and/or parts removed or broken. DO NOT bypass any safety devices or tamper with the controls.
- Use washer only for its intended purpose, washing textiles. Never wash machine parts or automotive parts in the machine. This could result in serious damage to the basket or tub.
- Use only low-sudsing, no-foaming types of commercial detergent. Be aware that hazardous chemicals may be present. Wear hand and eye protection when adding detergents and chemicals. Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times [preferably in a locked cabinet].
- Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
- Always follow the fabric care instructions supplied by the textile manufacturer.
- Loading door MUST BE CLOSED any time the washer is to fill, tumble or spin. DO NOT bypass the loading door switch by permitting the washer to operate with the loading door open. Do not attempt to open the door until the washer has drained and all moving parts have stopped.
- Be aware that hot water is used to flush the supply dispenser. Avoid opening the dispenser lid while the machine is running.
- Do not attach anything to the supply dispenser's nozzles, if applicable. The air gap must be maintained.
- Do not operate the machine without the water reuse plug or water reuse system in place, if applicable.
- Be sure water connections have a shut-off valve and that fill hose connections are tight. CLOSE the shut-off valves at the end of each wash day.
- Keep washer in good condition. Bumping or dropping the washer can damage safety features. If this occurs, have washer checked by a qualified service person.
- DANGER: Before inspecting or servicing machine, power supply must be turned OFF. The servicer needs to wait for at least 5 minutes after turning the power OFF and needs to check for residual voltage with a voltage meter. The inverter capacitor or EMC filter remains charged with high voltage for some time after powering OFF. This is an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.
- Do not repair or replace any part of the washer, or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that the user understands and has the skills to carry out. ALWAYS disconnect the washer from electrical, power and water supplies before attempting any service.
- Disconnect the power by turning off the circuit breaker or by unplugging the machine. Replace worn power cords.
- Before the washer is removed from service or discarded, remove the door to the washing compartment.
- Failure to install, maintain, and/or operate this washer according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

**NOTE:** The **WARNINGS** and **IMPORTANT SAFETY INSTRUCTIONS** appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.


Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

	<b>WARNING</b>
<p><b>Machine installations must comply with minimum specifications and requirements stated in the applicable Installation Manual, any applicable municipal building codes, water supply requirements, electrical wiring regulations and any other relevant statutory regulations. Due to varied requirements and applicable local codes, this machine must be installed, adjusted, and serviced by qualified maintenance personnel familiar with applicable local codes and the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury, property damage, and/or equipment damage, and will void the warranty.</b></p> <p style="text-align: right;">W820</p>	

**IMPORTANT:** Ensure that the machine is installed on a level floor of sufficient strength. Ensure that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.

	<b>WARNING</b>
<p><b>Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.</b></p> <p style="text-align: right;">SW014</p>	

## Operator Safety

	<b>WARNING</b>
<p><b>NEVER insert hands or objects into basket until it has completely stopped. Doing so could result in serious injury.</b></p> <p style="text-align: right;">SW012</p>	


The following maintenance checks must be performed daily:

1. Verify that all warning labels are present and legible, replace as necessary.
2. Check door interlock before starting operation of the machine:
  - a. Attempt to start the machine with the door open. The machine should not start.
  - b. Close the door without locking it and start the machine. The machine should not start.
  - c. Attempt to open the door while a cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, disconnect power and call a service technician.

3. Do not attempt to operate the machine if any of the following conditions are present:
  - a. The door does not remain securely locked during the entire cycle.
  - b. Excessively high water level is evident.
  - c. Machine is not connected to a properly grounded circuit.

Do not bypass any safety devices in the machine.

	<b>WARNING</b>
<p><b>Operating the machine with severe out-of-balance loads could result in personal injury and serious equipment damage.</b></p> <p style="text-align: right;">W728</p>	

## Safety Decals

Safety decals appear at crucial locations on the machine. Failure to maintain legible safety decals could result in injury to the operator or service technician.

Use manufacturer-authorized spare parts to avoid safety hazards.

# Introduction

## Model Identification

Information in this manual is applicable to Design 2 models or later. Refer to the 12th position of the model number (e.g.

\*CN040\*YVXU 2 001):

Models						
<b>20 POUND</b>	CCN020HNF	HCN020KYF	ICN020KYV	SCN020GNF	SCU020GNV	SCY020KNV
	CCN020HNV	HCN020KYV	SCD020JDF	SCN020HNF	SCU020HNF	SCY020LEV
	CCN020KNF	HCU020GNF	SCD020LDF	SCN020HNV	SCU020JCF	SCY020WEV
	CCN020KNV	HCU020HEF	SCD020LDV	SCN020JCF	SCU020JCV	SCZ020GNF
	HCD020LDF	HCU020HNF	SCL020GNF	SCN020JCV	SCU020JDF	UCL020GNF
	HCD020LDV	HCU020HNV	SCL020HNF	SCN020JDF	SCU020JDV	UCL020GNV
	HCL020GNF	HCU020HXF	SCL020HNV	SCN020JEF	SCU020JEF	UCL020HNF
	HCL020HDF	HCU020KCF	SCL020JCF	SCN020JXF	SCU020JEV	UCL020HNV
	HCL020HNF	HCU020KCV	SCL020JCV	SCN020JYF	SCU020JLF	UCL020KNF
	HCL020HNV	HCU020KEV	SCL020JDF	SCN020JYV	SCU020JLV	UCL020KNV
	HCL020KDF	HCU020KLF	SCL020JDV	SCN020KNF	SCU020JXF	UCN020GNF
	HCL020KDV	HCU020KLV	SCL020JEF	SCN020KNV	SCU020JXV	UCN020GNV
	HCL020KEV	HCU020KXV	SCL020JEV	SCN020LCF	SCU020JYF	UCN020HNF
	HCL020KXF	HCU020KYF	SCL020JXF	SCN020LCV	SCU020JYV	UCN020HNV
	HCN020GNF	HCU020KYV	SCL020JYF	SCN020LDF	SCU020KNF	UCN020KNF
	HCN020HCF	HCZ020GNF	SCL020KNV	SCN020LDV	SCU020LCV	UCN020KNV
	HCN020HDF	ICN020GNF	SCL020LCF	SCN020LEF	SCU020LDV	UCU020GNF
	HCN020HEF	ICN020HNF	SCL020LDF	SCN020LEV	SCU020LEV	UCU020GNV
	HCN020HNF	ICN020HNV	SCL020LDV	SCN020LYF	SCU020LLV	UCU020HNF
	HCN020HNV	ICN020KCF	SCL020LEF	SCN020LYV	SCU020LXV	UCU020HNV
	HCN020HXF	ICN020KCV	SCL020LEV	SCN020WCF	SCU020LYV	UCU020KNF
	HCN020HYF	ICN020KDF	SCL020LLV	SCN020WCV	SCU020WCV	UCU020KNV
	HCN020KCF	ICN020KDV	SCL020LXF	SCN020WDF	SCU020WDV	UCY020KNF
	HCN020KCV	ICN020KEF	SCL020LYF	SCN020WDV	SCU020WEV	UCY020KNV
	HCN020KDF	ICN020KEV	SCL020LYV	SCN020WEF	SCU020WXV	UCZ020GNF
	HCN020KDV	ICN020KNF	SCL020WEF	SCN020WEV	SCU020WYV	UCZ020HNF
	HCN020KEF	ICN020KNV	SCL020WEV	SCN020WYF	SCY020JDV	
	HCN020KEV	ICN020KXF	SCL020WVF	SCN020WYV	SCY020JEF	
	HCN020KXF	ICN020KYF	SCL020WYV	SCU020GNF	SCY020KNF	

*Table continues...*



Models						
<b>30 POUND</b>	CCN030HNF	HCN030KDV	ICN030KXF	SCL030WXF	SCN030WYF	SCY030JEF
	CCN030HNV	HCN030KEF	ICN030KYF	SCL030WYV	SCN030WYV	SCY030KNF
	CCN030KNF	HCN030KEV	ICN030KYV	SCN030GNF	SCU030GNF	SCY030KNV
	CCN030KNV	HCN030KXF	SCD030JDF	SCN030GNV	SCU030GNV	SCY030LEV
	HCD030LDF	HCN030KYF	SCD030LDF	SCN030HNF	SCU030HNF	SCY030WEV
	HCD030LDV	HCN030KYV	SCD030LDV	SCN030HNV	SCU030JCF	SCZ030GNF
	HCL030GNF	HCU030GNF	SCL030GCF	SCN030JCF	SCU030JCV	UCL030GNF
	HCL030HCF	HCU030GNV	SCL030GNF	SCN030JCV	SCU030JDF	UCL030GNV
	HCL030HDF	HCU030HLF	SCL030GNV	SCN030JDF	SCU030JDV	UCL030HNF
	HCL030HEF	HCU030HNF	SCL030HNF	SCN030JEF	SCU030JEF	UCL030HNV
	HCL030HLF	HCU030HNV	SCL030HNV	SCN030JXF	SCU030JEV	UCL030KNF
	HCL030HNF	HCU030HXF	SCL030JCF	SCN030JYF	SCU030JLF	UCL030KNV
	HCL030HNV	HCU030KCF	SCL030JCV	SCN030JYV	SCU030JLV	UCN030GNF
	HCL030KCV	HCU030KCV	SCL030JDF	SCN030KNF	SCU030JXF	UCN030GNV
	HCL030KDF	HCU030KEV	SCL030JDV	SCN030KNV	SCU030JXV	UCN030HNF
	HCL030KDV	HCU030KLV	SCL030JEF	SCN030LCF	SCU030JYF	UCN030HNV
	HCL030KEF	HCU030KXV	SCL030JEV	SCN030LCV	SCU030JYV	UCN030KNF
	HCL030KEV	HCU030KYF	SCL030JXF	SCN030LDF	SCU030KNF	UCN030KNV
	HCL030KXV	HCU030KYV	SCL030JYV	SCN030LDV	SCU030KNV	UCU030GNF
	HCL030KYF	HCZ030GNF	SCL030KNF	SCN030LEF	SCU030LCV	UCU030GNV
	HCN030GNF	HCZ030HNV	SCL030KNV	SCN030LEV	SCU030LDV	UCU030HNF
	HCN030GNV	ICN030GNF	SCL030KYF	SCN030LXF	SCU030LEF	UCU030HNV
	HCN030HCF	ICN030HNF	SCL030LCV	SCN030LXV	SCU030LEV	UCU030KNF
	HCN030HDF	ICN030HNV	SCL030LEF	SCN030LYF	SCU030LLV	UCU030KNV
	HCN030HEF	ICN030KCF	SCL030LEV	SCN030LYV	SCU030LXV	UCY030KNF
	HCN030HNF	ICN030KCV	SCL030LXF	SCN030WCF	SCU030LYV	UCY030KNV
	HCN030HNV	ICN030KDF	SCL030LXV	SCN030WCV	SCU030WCV	UCZ030GNF
	HCN030HXF	ICN030KDV	SCL030LYV	SCN030WDF	SCU030WDV	UCZ030HNF
	HCN030HYF	ICN030KEF	SCL030WCF	SCN030WDV	SCU030WEV	
	HCN030KCF	ICN030KEV	SCL030WCV	SCN030WEF	SCU030WXV	
	HCN030KCV	ICN030KNF	SCL030WEF	SCN030WEV	SCU030WYV	
	HCN030KDF	ICN030KNV	SCL030WEV	SCN030WLV	SCY030JDV	

Table continues...

Models						
<b>40 POUND</b>	CCN040HNF	HCN040KCF	SCB040HNV	SCL040JDV	SCN040LEF	SCU040LYV
	CCN040HNV	HCN040KCV	SCB040JCF	SCL040JEF	SCN040LEV	SCU040WCF
	CCN040KNF	HCN040KDF	SCB040JCV	SCL040JEV	SCN040LLF	SCU040WCV
	CCN040KNV	HCN040KDV	SCB040JDF	SCL040JXF	SCN040LXF	SCU040WDV
	HCB040GNF	HCN040KEF	SCB040JDV	SCL040JXV	SCN040LXV	SCU040WEV
	HCB040HCF	HCN040KEV	SCB040JEF	SCL040JYF	SCN040LYF	SCU040WXV
	HCB040HNF	HCN040KXF	SCB040JEV	SCL040KNF	SCN040LYV	SCU040WYV
	HCB040HNV	HCN040KYF	SCB040JLF	SCL040KNV	SCN040WCF	SCY040JDV
	HCB040KCF	HCN040KYV	SCB040JLV	SCL040LCF	SCN040WCV	SCY040JEF
	HCB040KCV	HCU040GNF	SCB040JXF	SCL040LCV	SCN040WDF	SCY040KNF
	HCB040KEV	HCU040GNV	SCB040JXV	SCL040LEF	SCN040WDV	SCY040KNV
	HCB040KLV	HCU040HLF	SCB040JYF	SCL040LEV	SCN040WEF	SCY040LEV
	HCB040KXF	HCU040HNF	SCB040JYV	SCL040LLF	SCN040WEV	SCY040WEV
	HCB040KYF	HCU040HNV	SCB040KNF	SCL040LXF	SCN040WYF	UCB040HNF
	HCB040KYV	HCU040HXF	SCB040KNV	SCL040LYF	SCN040WYV	UCB040HNV
	HCB040LDF	HCU040KCF	SCB040LCV	SCL040WCF	SCU040GNF	UCB040KNF
	HCD040LDF	HCU040KCV	SCB040LDV	SCL040WEF	SCU040GNV	UCB040KNV
	HCD040LDV	HCU040KEV	SCB040LEF	SCL040WEV	SCU040HNF	UCL040GNF
	HCL040GNF	HCU040KLV	SCB040LEV	SCL040WLV	SCU040JCF	UCL040GNV
	HCL040GNV	HCU040KXF	SCB040LLF	SCL040WXF	SCU040JCV	UCL040HNF
	HCL040HCF	HCU040KXV	SCB040LXV	SCL040WXV	SCU040JDF	UCL040HNV
	HCL040HDF	HCU040KYF	SCB040LYV	SCL040WYV	SCU040JDV	UCL040KNF
	HCL040HEF	HCU040KYV	SCB040WCF	SCN040GNF	SCU040JEF	UCL040KNV
	HCL040HNF	ICN040GNF	SCB040WCV	SCN040GNV	SCU040JEV	UCN040GNF
	HCL040HNV	ICN040HNF	SCB040WDV	SCN040HNF	SCU040JLF	UCN040GNV
	HCL040KCV	ICN040HNV	SCB040WEV	SCN040HNV	SCU040JLV	UCN040HNF
	HCL040KDF	ICN040KCF	SCB040WXV	SCN040JCF	SCU040JXF	UCN040HNV
	HCL040KDV	ICN040KCV	SCB040WYV	SCN040JCV	SCU040JXV	UCN040KNF
	HCL040KEV	ICN040KDF	SCD040JDF	SCN040JDF	SCU040JYF	UCN040KNV
	HCL040KXV	ICN040KDV	SCD040LDF	SCN040JEF	SCU040JYV	UCU040GNF
	HCN040GNF	ICN040KEF	SCD040LDV	SCN040JXF	SCU040KNF	UCU040GNV
	HCN040GNV	ICN040KEV	SCL040GCF	SCN040JYF	SCU040KNV	UCU040HNF
	HCN040HCF	ICN040KNF	SCL040GNF	SCN040JYV	SCU040LCV	UCU040HNV
	HCN040HDF	ICN040KNV	SCL040GNV	SCN040KNF	SCU040LDV	UCU040KNF
	HCN040HEF	ICN040KXF	SCL040HNF	SCN040KNV	SCU040LEF	UCU040KNV
	HCN040HNF	ICN040KYF	SCL040HNV	SCN040LCF	SCU040LEV	UCY040KNF
	HCN040HNV	ICN040KYV	SCL040JCF	SCN040LCV	SCU040LLF	UCY040KNV
	HCN040HXF	SCB040GNF	SCL040JCV	SCN040LDF	SCU040LLV	
	HCN040HYF	SCB040HNF	SCL040JDF	SCN040LDV	SCU040LXV	

Table continues...

Models						
<b>60 POUND</b>	CCN060HNF	HCN060KEF	ICN060KYF	SCN060GNV	SCN060WYV	SCU060WYV
	CCN060HNV	HCN060KEV	ICN060KYV	SCN060HNF	SCU060GNF	SCY060JDV
	CCN060KNF	HCN060KXF	SCD060JDF	SCN060HNV	SCU060GNV	SCY060JEF
	CCN060KNV	HCN060KYF	SCD060LDF	SCN060JCF	SCU060HNF	SCY060KNF
	HCD060LDF	HCN060KYV	SCD060LDV	SCN060JCV	SCU060HNV	SCY060KNV
	HCD060LDV	HCU060GNF	SCL060GNF	SCN060JDF	SCU060JCF	SCY060LEV
	HCL060GNF	HCU060GNV	SCL060GNV	SCN060JEF	SCU060JCV	SCY060WEV
	HCL060GNV	HCU060HLF	SCL060HNF	SCN060JXF	SCU060JDF	UCL060GNF
	HCL060HCF	HCU060HNF	SCL060HNV	SCN060JYF	SCU060JDV	UCL060GNV
	HCL060HDF	HCU060HNV	SCL060JCF	SCN060JYV	SCU060JEF	UCL060HNF
	HCL060HNF	HCU060HXF	SCL060JCV	SCN060KNF	SCU060JEV	UCL060HNV
	HCL060HNV	HCU060KCF	SCL060JDF	SCN060KNV	SCU060JLF	UCL060KNF
	HCL060KDF	HCU060KCV	SCL060JDV	SCN060LCF	SCU060JLV	UCL060KNV
	HCL060KDV	HCU060KEV	SCL060JEF	SCN060LCV	SCU060JXF	UCN060GNF
	HCL060KEV	HCU060KLV	SCL060JEV	SCN060LDF	SCU060JXV	UCN060GNV
	HCL060KXV	HCU060KYF	SCL060JXF	SCN060LDV	SCU060JYF	UCN060HNF
	HCN060GNF	HCU060KYV	SCL060JYF	SCN060LEF	SCU060JYV	UCN060HNV
	HCN060GNV	ICN060GNF	SCL060KNF	SCN060LEV	SCU060KNF	UCN060KNF
	HCN060HCF	ICN060HNF	SCL060KNV	SCN060LXF	SCU060KNV	UCN060KNV
	HCN060HDF	ICN060HNV	SCL060LCV	SCN060LXV	SCU060LCV	UCU060GNF
	HCN060HEF	ICN060KCF	SCL060LEF	SCN060LYF	SCU060LDV	UCU060GNV
	HCN060HNF	ICN060KCV	SCL060LEV	SCN060LYV	SCU060LEV	UCU060HNF
	HCN060HNV	ICN060KDF	SCL060LLF	SCN060WCF	SCU060LLV	UCU060HNV
	HCN060HXF	ICN060KDV	SCL060LXF	SCN060WCV	SCU060LXV	UCU060KNF
	HCN060HYF	ICN060KEF	SCL060WEF	SCN060WDF	SCU060LYV	UCU060KNV
	HCN060KCF	ICN060KEV	SCL060WEV	SCN060WDV	SCU060WCV	UCY060KNF
	HCN060KCV	ICN060KNF	SCL060WXF	SCN060WEF	SCU060WDV	UCY060KNV
	HCN060KDF	ICN060KNV	SCL060WYV	SCN060WEV	SCU060WEV	
	HCN060KDV	ICN060KXF	SCN060GNF	SCN060WYF	SCU060WXV	
<b>80 POUND</b>	CCN080HNF	HCN080KDF	ICN080KDV	SCN080KNF	SCU080JDV	SCY080KNF
	CCN080HNV	HCN080KDV	ICN080KEF	SCN080KNV	SCU080JEF	SCY080KNV
	CCN080KNV	HCN080KEF	ICN080KEV	SCN080LCF	SCU080JEV	UCL080GNF
	HCD080LDF	HCN080KEV	ICN080KNF	SCN080LCV	SCU080JLF	UCL080HNF
	HCD080LDV	HCN080KYF	ICN080KNV	SCN080LDF	SCU080JLV	UCL080HNV
	HCL080GNF	HCN080KYV	ICN080KYF	SCN080LDV	SCU080JXF	UCL080KNF
	HCL080HNF	HCU080GNF	ICN080KYV	SCN080LEF	SCU080JXV	UCL080KNV
	HCL080HNV	HCU080HCF	SCD080LDF	SCN080LYF	SCU080JYF	UCN080GNF
	HCL080KDF	HCU080HNF	SCD080LDV	SCN080LYV	SCU080JYV	UCN080HNF
	HCL080KDV	HCU080HXF	SCL080GNF	SCN080WCF	SCU080KNV	UCN080HNV
	HCN080GNF	HCU080KCF	SCL080HNF	SCN080WCV	SCU080LCV	UCN080KNF
	HCN080HCF	HCU080KCV	SCL080KNF	SCN080WDV	SCU080LDV	UCN080KNV
	HCN080HCV	HCU080KYF	SCL080KNV	SCN080WEV	SCU080LEV	UCU080GNF
	HCN080HDF	HCU080KYV	SCN080GNF	SCN080WYF	SCU080LXV	UCU080HNF
	HCN080HNF	ICN080GNF	SCN080HNF	SCN080WYV	SCU080LYV	UCU080HNV
	HCN080HNV	ICN080HNF	SCN080JCF	SCU080GNF	SCU080WCV	UCU080KNF
	HCN080HYF	ICN080HNV	SCN080JCV	SCU080HNF	SCU080WDV	UCU080KNV
	HCN080HYV	ICN080KCF	SCN080JDF	SCU080JCF	SCU080WEV	UCY080KNF
	HCN080KCF	ICN080KCV	SCN080JYF	SCU080JCV	SCU080WXV	UCY080KNV
	HCN080KCV	ICN080KDF	SCN080JYV	SCU080JDF	SCU080WYV	

Table continues...

Models						
<b>100 POUND</b>	CCN100HNF	HCN100KEF	ICN100KDV	SCN100LCF	SCN100WDF	UCL100HNV
	CCN100HNV	HCN100KEV	ICN100KEV	SCN100LCV	SCN100WDV	UCL100KNF
	HCL100GNF	HCN100KXF	ICN100KNF	SCN100LDF	SCN100WEF	UCL100KNV
	HCL100HNV	HCN100KXV	ICN100KNV	SCN100LDV	SCN100WEV	UCN100GNF
	HCL100KDF	HCN100KYF	ICN100KXV	SCN100LEF	SCN100WXF	UCN100HNF
	HCL100KDV	HCN100KYV	ICN100KYV	SCN100LEV	SCN100WXV	UCN100HNV
	HCN100GNF	HCU100HNV	SCL100GNF	SCN100LXF	SCN100WYF	UCN100KNV
	HCN100HNV	ICN100GNF	SCL100KNV	SCN100LXV	SCN100WYV	UCU100HNF
	HCN100KCF	ICN100HNF	SCN100GNF	SCN100LYF	SCU100KNV	UCU100HNV
	HCN100KCV	ICN100HNV	SCN100JCF	SCN100LYV	SCY100KNF	UCU100KNF
	HCN100KDF	ICN100KCF	SCN100KNF	SCN100WCF	UCL100GNF	UCU100KNV
	HCN100KDV	ICN100KCV	SCN100KNV	SCN100WCV	UCL100HNF	UCY100KNV

## Delivery Inspection

Upon delivery, visually inspect crate, protective cover, and unit for any visible shipping damage. If signs of possible damage are evident, have the carrier note the condition on the shipping papers before the shipping receipt is signed, or advise the carrier of the condition as soon as it is discovered.

## Serial Plate Location

The serial plate is located at the rear of the machine and inside door. Provide the machine's serial number and model number when ordering parts or seeking technical assistance. Refer to *Figure 1*.

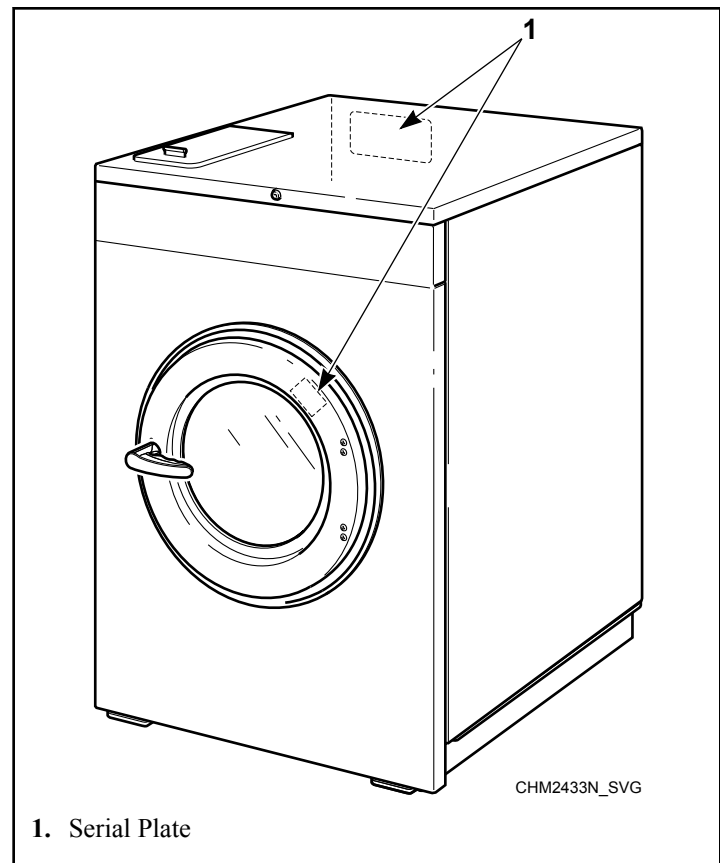


Figure 1

## Replacement Parts

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at +1 (920) 748-3950 for the name and address of the nearest authorized parts distributor.

## Customer Service

For technical assistance, contact your local distributor or contact:

Alliance Laundry Systems  
Shepard Street  
P.O. Box 990  
Ripon, WI 54971-0990  
U.S.A.  
[www.alliancelaundry.com](http://www.alliancelaundry.com)  
Phone: +1 (920) 748-3121 Ripon, Wisconsin  
Alliance International: +32 56 41 20 54 Wevelgem, Belgium

# Specifications and Dimensions

## General Specifications

Specification	20		30	40	60	80	100
Overall Dimensions							
Overall width, in. [mm]	26.0 [660]		29.0 [737]	30.63 [778]	34.06 [865]	41.5 [1054]	41.5 [1054]
Overall height, in [mm]	Design 2	42.0 [1067]	44.95 [1142]	47.2 [1199]	49.89 [1267]	56.16 [1426]	56.16 [1426]
	Design 3	43.0 [1092]					
Overall depth, in. [mm]	30.85 [784]		35.29 [896]	42.25 [1073]	4.7 [1135]	48.6 [1234]	52.6 [1336]
Weight and Shipping Information							
Net weight, lbs. [kg]	335 [152]		460 [209]	550 [249]	695 [315]	1210 [549]	1260 [572]
Standard shipping weight, lbs. [kg]	365 [166]		495 [225]	59 [268]	745 [338]	1260 [572]	1310 [594]
Standard shipping volume, ft³ [m³]	Design 2	26.5 [0.75]	36 [1.01]	44 [1.24]	57 [1.61]	81 [2.29]	87 [2.4]
	Design 3	27 [0.77]					
Standard shipping dimensions (WxDxH), in. [mm]	Design 2	28 x 33.8 x 48.4 [711 x 859 x 1229]	31.5 x 38.3 x 51.3 [800 x 973 x 1303]	32.5 x 43.5 x 53.6 [826 x 1105 x 1361]	37.5 x 46.9 x 56.3 [953 x 1191 x 1430]	44 x 54.5 x 58.6 [1118 x 1384 x 1488]	44 x 58.5 x 58.6 [1118 x 1486 x 1488]
	Design 3	28 x 33.8 x 49.4 [711 x 859 x 1256]					
Slat crate shipping weight, lbs. [kg]	450 [204]		590 [268]	690 [313]	860 [390]	1385 [628]	1435 [651]
Slat crate shipping volume, ft³ [m³]	Design 2	36.2 [1.04]	47 [1.33]	54 [1.52]	78 [2.20]	105 [2.97]	112 [3.17]
	Design 3	38 [1.07]					
Slat crate shipping dimensions (WxDxH), in. [mm]	Design 2	32.5 x 36.8 x 49.8 [826 x 935 x 1240]	36 x 41.3 x 55 [914 x 1049 x 1397]	37 x 45.9 x 55 [940 x 1166 x 1397]	42 x 49.9 x 64 [1067 x 1267 x 1626]	48.5 x 57.5 x 65.1 [1232 x 1461 x 1654]	48.5 x 61.5 x 65.1 [1232 x 1562 x 1654]
	Design 3	32.5 x 36.8 x 55 [826 x 935 x 1397]					
Wash Cylinder Information							
Cylinder diameter, in. [mm]	21 [533]		24 [610]	26.3 [668]	30 [762]	36 [914]	36 [914]
Cylinder depth, in. [mm]	13.8 [350]		16 [406]	20.3 [515]	22 [559]	21.9 [556]	25.9 [657]
Cylinder volume, ft³ [l]	2.8 [79.3]		4.2 [119]	6.3 [178]	9.00 [255]	12.9 [365]	15.2 [430]

Table 1 *continues...*

Specification		20	30	40	60	80	100
Perforation size, in. [mm]		0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]
Perforation open area, %		17.3	18.6	18.8	18.8	19.6	20.2
<b>Door Opening Information</b>							
Door opening size, in. [mm]		11.6 [295]	14.3 [363]	16.3 [414]	16.3 [414]	18.5 [470]	18.5 [470]
Height of door bottom above floor, in. [mm]		14.38 [365]	14 [356]	14.56 [370]	14.94 [379]	17.91 [455]	17.91 [455]
Height of door opening above floor, in. [mm]		17 [432]	17 [431]	17.74 [451]	18.12 [460]	20.77 [528]	20.77 [528]
<b>Power Consumption</b>							
Average power used per cycle, kW-hr. (X-voltage shown)	No load	.05	.09	.10	.15	.19	.19
	80 % load	.06	.11	.14	.22	.28	.28
<b>Estimated Building Heat Load</b>							
HVAC load, Btu/hr. [Kcal/hr.] (Non-heat models)		400 [101]	450 [113]	510 [129]	750 [189]	950 [239]	950 [239]
<b>Drive Train Information</b>							
Number of motors in drive train		1	1	1	1	1	1
Drive motor power, hp [kW]		*	2 [1.5]	2 [1.5]	3 [2.2]	5 [3.7]	5 [3.7]
<b>Cylinder Speeds</b>							
Gentle wash/reverse speed, RPM [G]		37 [0.4]	34 [0.4]	33 [0.4]	31 [0.4]	28 [0.4]	28 [0.4]
Wash/reverse speed, RPM [G]		51 [0.8]	48 [0.8]	46 [0.8]	43 [0.8]	39 [0.8]	39 [0.8]
Distribution speed, RPM [G]		92 [2.5]	86 [2.5]	82 [2.5]	77 [2.5]	70 [2.5]	70 [2.5]
Extract Speed 1 (very low), RPM [G]		301 [27]	282 [27]	269 [27]	252 [27]	230 [27]	230 [27]
Extract Speed 2 (low), RPM [G]		518 [80]	485 [80]	464 [80]	434 [80]	396 [80]	396 [80]
Extract Speed 3 (medium), RPM [G]		579 [100]	542 [100]	518 [100]	485 [100]	443 [100]	443 [100]
Extract Speed 4 (high), RPM [G]		648 [120]	606 [120]	579 [120]	542 [120]	495 [120]	495 [125]
Extract Speed 5 (very high), RPM [G]		710 [150]	664 [150]	635 [150]	594 [150]	542 [150]	542 [150]
Extract Speed 6 (ultra high), RPM [G]		819 [200]	766 [200]	733 [200]	686 [200]	626 [200]	568 [165]
<b>Direct Steam Heating (Optional)</b>							
Steam inlet connection size, NPT		1/2	1/2	1/2	1/2	1/2	1/2
Number of steam inlets		**	**	1	1	1	1
Steam required to raise bath water temperature 10°F/lbs. [10°C/kg]	LOW	.74 [0.34]	.94 [0.43]	2.09 [0.94]	3.80 [1.63]	3.80 [1.72]	3.80 [1.72]
	MED	1.07 [0.49]	1.28 [0.58]	2.40 [1.09]	4.65 [2.11]	4.65 [2.11]	5.49 [2.49]
	HIGH	1.44 [0.65]	1.74 [0.79]	2.84 [1.29]	5.79 [2.63]	5.79 [2.63]	6.84 [3.10]

Table 1 continues...

Specification			20	30	40	60	80	100
Average steam consumption per cycle, bHP			.34	.41	.78	.98	1.34	1.58
Electrical Heating								
Total electrical heating capacity, kW	Input Voltage							
	200V		5.4	5.4	10.8	10.8	19.1	19.1
	240V		7.8	7.8	15.6	15.6	27.4	27.4
	380V		6.5	6.5	13.0	13.0	17.2	17.2
	415V		7.8	7.8	15.5	15.5	20.5	20.5
	480V		N/A	N/A	15.6	15.6	27.4	27.4
Electrical heating elements			3	3	6	6	6	6
Electrical heat element size, kW			2.6	2.6	2.6	2.6	4.2	4.2
Noise Emissions								
dBA	Wash		58	58	58	58	58	58
	Extract	100G	52	59	59	59	69	69
		200G	61	66	66	66	76	73
* For B, Q and X-voltage models = 1 hp [.75 kW] and for N and P-voltage models = 2 hp [1.7 kW]								
** 20 and 30 pound models can be prep for steam and a kit is available for conversion.								
N/A = Not Applicable								

Table 1



# Machine Dimensions

## 20-60 Pound Capacity Machines

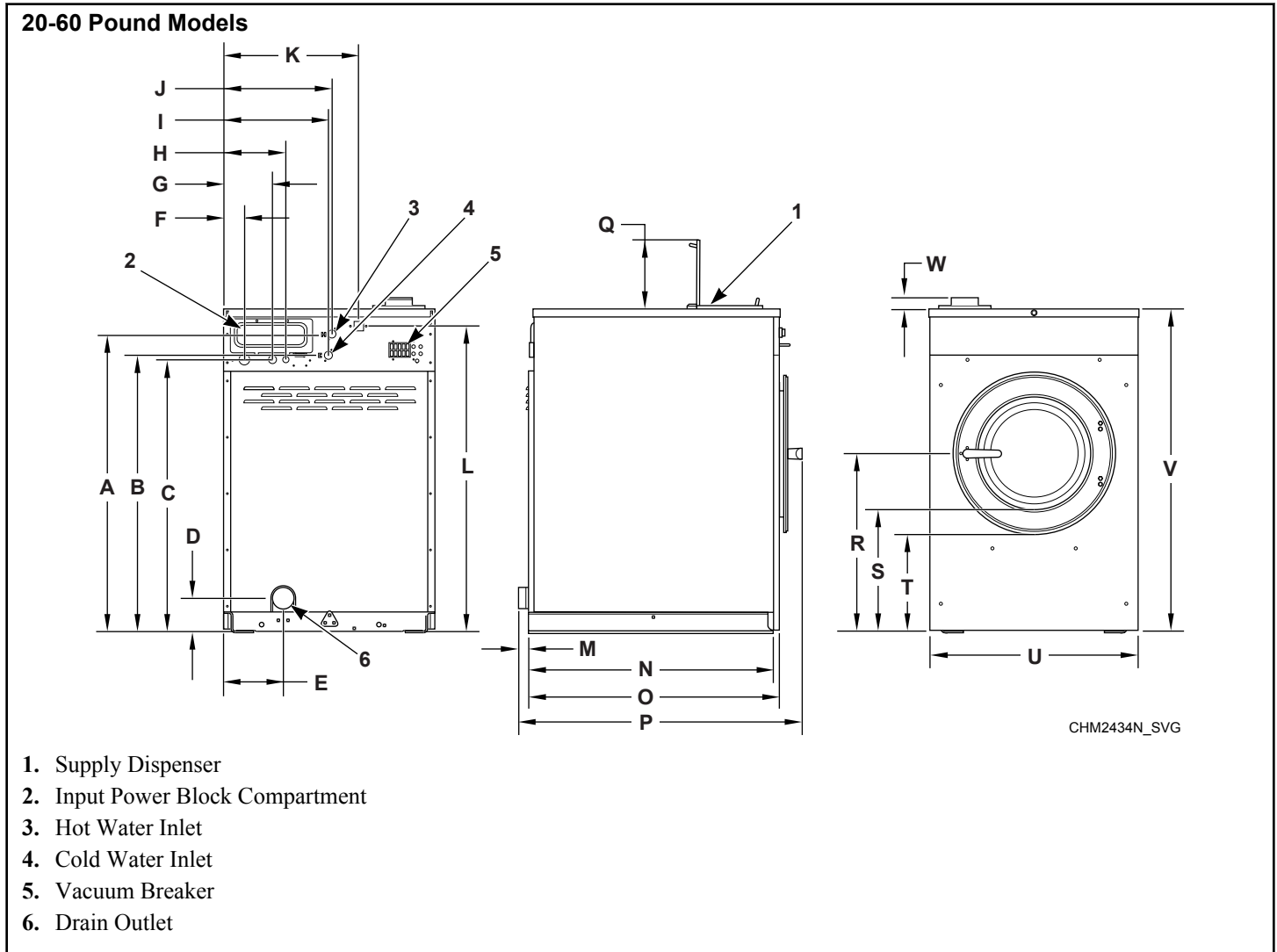


Figure 2

Machine Capacity Dimensions - 20-60 Pound Models, in. [mm]					
Specification	20 (Design 2)	20 (Design 3)	30	40	60
A	38.0 [965]	39.0 [991]	40.94 [1040]	43.19 [1097]	45.88 [1165]
B	35.0 [889]	36.0 [914]	37.94 [964]	40.19 [1021]	42.88 [1089]
C	34.52 [902]	35.52 [902]	37.46 [951]	39.71 [1009]	42.4 [1077]
D	4.7 [119]	4.7 [119]	4.14 [105]	4.51 [115]	4.87 [124]

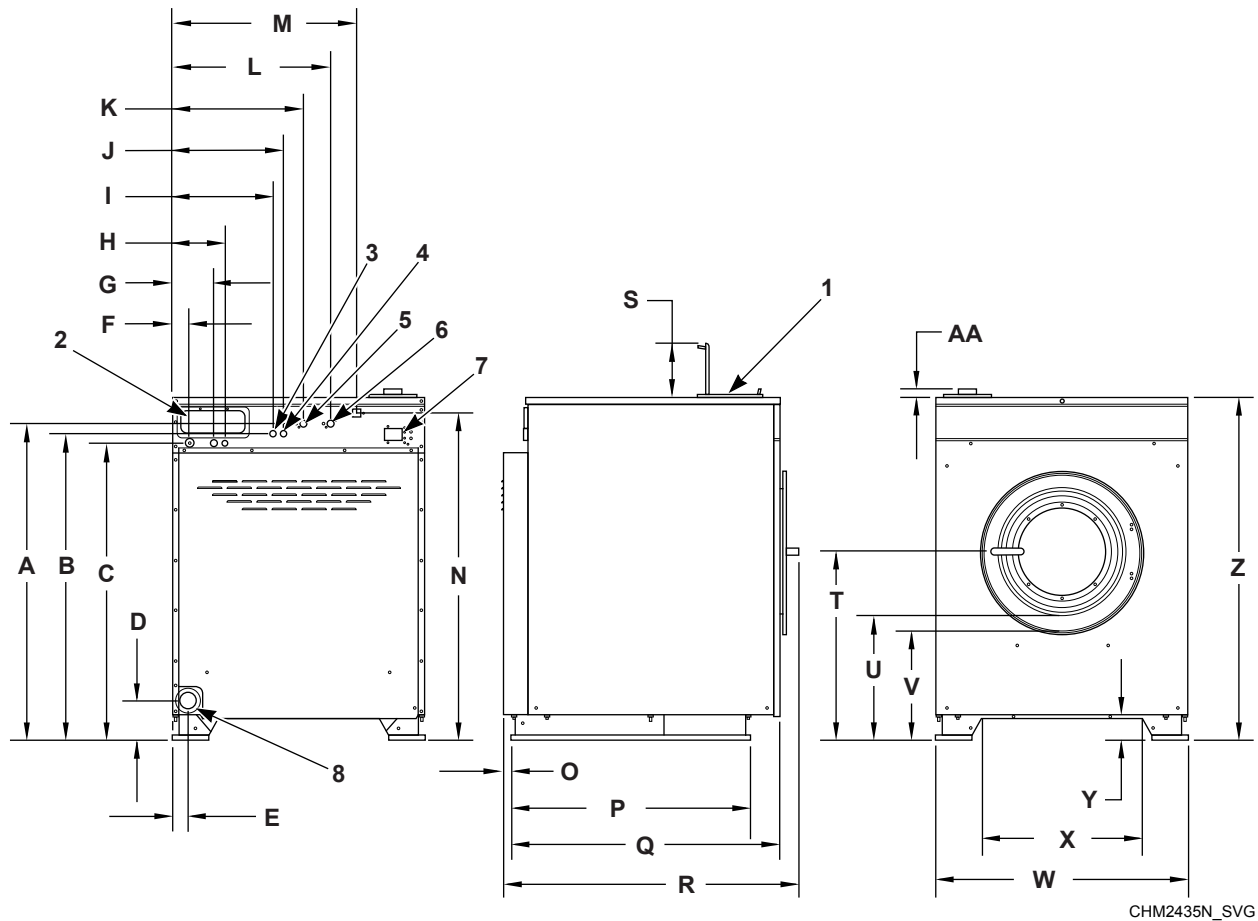
Table 2 continues...

<b>Machine Capacity Dimensions - 20-60 Pound Models, in. [mm]</b>					
<b>Specification</b>	<b>20 (Design 2)</b>	<b>20 (Design 3)</b>	<b>30</b>	<b>40</b>	<b>60</b>
<b>E</b>	7.83 [199]	7.83 [199]	9.33 [237]	8.82 [224]	9.89 [251]
<b>F</b>	2.99 [76]	2.99 [76]	2.99 [76]	2.99 [76]	2.99 [76]
<b>G</b>	6.94 [176]	6.94 [176]	6.94 [176]	6.94 [176]	6.94 [176]
<b>H</b>	8.82 [224]	8.82 [224]	8.82 [224]	8.82 [224]	8.82 [224]
<b>I</b>	15.15 [385]	15.15 [385]	15.15 [385]	15.15 [385]	19.9 [505]
<b>J</b>	15.65 [398]	15.65 [398]	15.65 [398]	15.65 [398]	20.4 [518]
<b>K</b>	N/A	N/A	N/A	19.48 [495]	22.91 [582]
<b>L</b>	N/A	N/A	N/A	44.61 [1133]	47.3 [1201]
<b>M</b>	0.34 [9]	0.34 [9]	0.34 [9]	2.0 [51]	2.0 [51]
<b>N</b>	26.83 [681]	26.83 [681]	31.5 [800]	35.52 [902]	38.62 [981]
<b>O</b>	27.31 [694]	27.31 [694]	31.82 [808]	36.96 [939]	39.45 [1002]
<b>P</b>	30.85 [784]	30.85 [784]	35.29 [896]	42.25 [1073]	44.7 [1135]
<b>Q</b>	9.0 [254]	9.0 [254]	9.0 [254]	9.0 [254]	9.0 [254]
<b>R</b>	23.01 [584]	23.01 [584]	24.0 [610]	26.0 [660]	26.38 [670]
<b>S</b>	17.0 [432]	17.0 [432]	17.0 [432]	17.74 [451]	18.12 [460]
<b>T</b>	14.38 [365]	14.38 [365]	14 [356]	14.56 [370]	14.94 [379]
<b>U</b>	26.0 [660]	26.0 [660]	29.0 [737]	30.63 [778]	34.06 [865]
<b>V</b>	42.0 [1067]	43.0 [1092]	44.95 [1142]	47.2 [1199]	49.89 [1267]
<b>W</b>	1.5 [38]	1.5 [38]	1.5 [38]	1.5 [38]	1.5 [38]
N/A = Not Applicable					

Table 2

# 80 and 100 Pound Capacity Machines

## 80 and 100 Pound Models



1. Supply Dispenser
2. Input Power Block Compartment
3. Auxiliary Hot Water Inlet
4. Auxiliary Cold Water Inlet
5. Cold Water Inlet
6. Hot Water Inlet
7. Vacuum Breaker
8. Drain Outlet

Figure 3

Machine Capacity Dimensions - 80 and 100 Pound Models, in. [mm]				
A	51.82 [1316]	O	1.36 [35]	
B	50.32 [1278]	P	39.24 [997]	
C	48.68 [1236]	Q	80	44.16 [1122]
			100	48.16 [1223]

Table 3 continues...

<b>Machine Capacity Dimensions - 80 and 100 Pound Models, in. [mm]</b>				
<b>D</b>	6.41 [163]	<b>R</b>	<b>80</b>	48.6 [1234]
			<b>100</b>	52.6 [1336]
<b>E</b>	2.55 [65]	<b>S</b>		9.0 [229]
<b>F</b>	2.99 [76]	<b>T</b>		30.91 [785]
<b>G</b>	6.94 [176]	<b>U</b>		20.77 [528]
<b>H</b>	8.82 [224]	<b>V</b>		17.91 [455]
<b>I</b>	16.66 [423]	<b>W</b>		41.5 [1054]
<b>J</b>	18.18 [462]	<b>X</b>		26.15 [664]
<b>K</b>	21.65 [550]	<b>Y</b>		3.57 [91]
<b>L</b>	26.15 [664]	<b>Z</b>		56.16 [1426]
<b>M</b>	30.35 [771]	<b>AA</b>		1.5 [38]
<b>N</b>	53.57 [1361]			

Table 3

## Mounting Bolt Hole Locations – 20 and 30 Pound Models

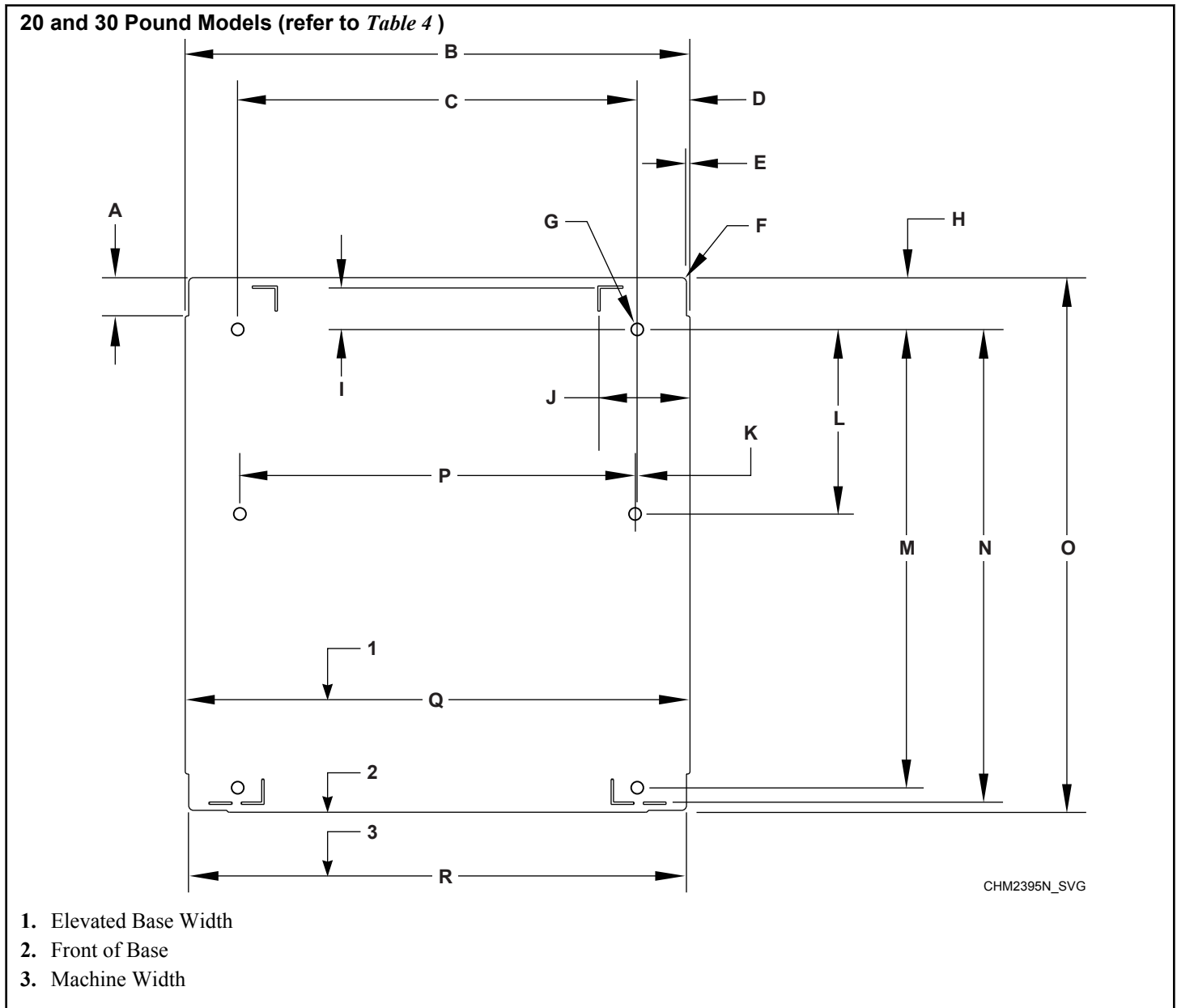


Figure 4

Mounting Bolt Hole Locations – 20 and 30 Pound Models, in. [mm]		
Specification	20	30
A	2 [51]	2 [51]
B	26.37 [670]	29.38 [746]
C	20.88 [530]	23.89 [607]

Table 4 continues...

<b>Mounting Bolt Hole Locations – 20 and 30 Pound Models, in. [mm]</b>		
<b>Specification</b>	<b>20</b>	<b>30</b>
<b>D</b>	2.75 [70]	2.75 [70]
<b>E</b>	0.18 [5]	0.18 [5]
<b>F</b>	0.25 [6]	0.25 [6]
<b>G</b>	0.64 [16]	0.64 [16]
<b>H</b>	2.71 [69]	2.37 [60]
<b>I</b>	2.15 [55]	1.81 [46]
<b>J</b>	4.69 [119]	4.69 [119]
<b>K</b>	0.19 [5]	0.19 [5]
<b>L</b>	9.64 [245]	10.5 [267]
<b>M</b>	23.94 [608]	28.94 [735]
<b>N</b>	24.69 [627]	29.69 [754]
<b>O</b>	27.92 [709]	32.59 [828]
<b>P</b>	20.65 [524]	23.5 [597]
<b>Q</b>	26.37 [670]	29.38 [746]
<b>R</b>	26 [660]	29.02 [737]

Table 4

# Mounting Bolt Hole Locations - 40 and 60 Pound Models

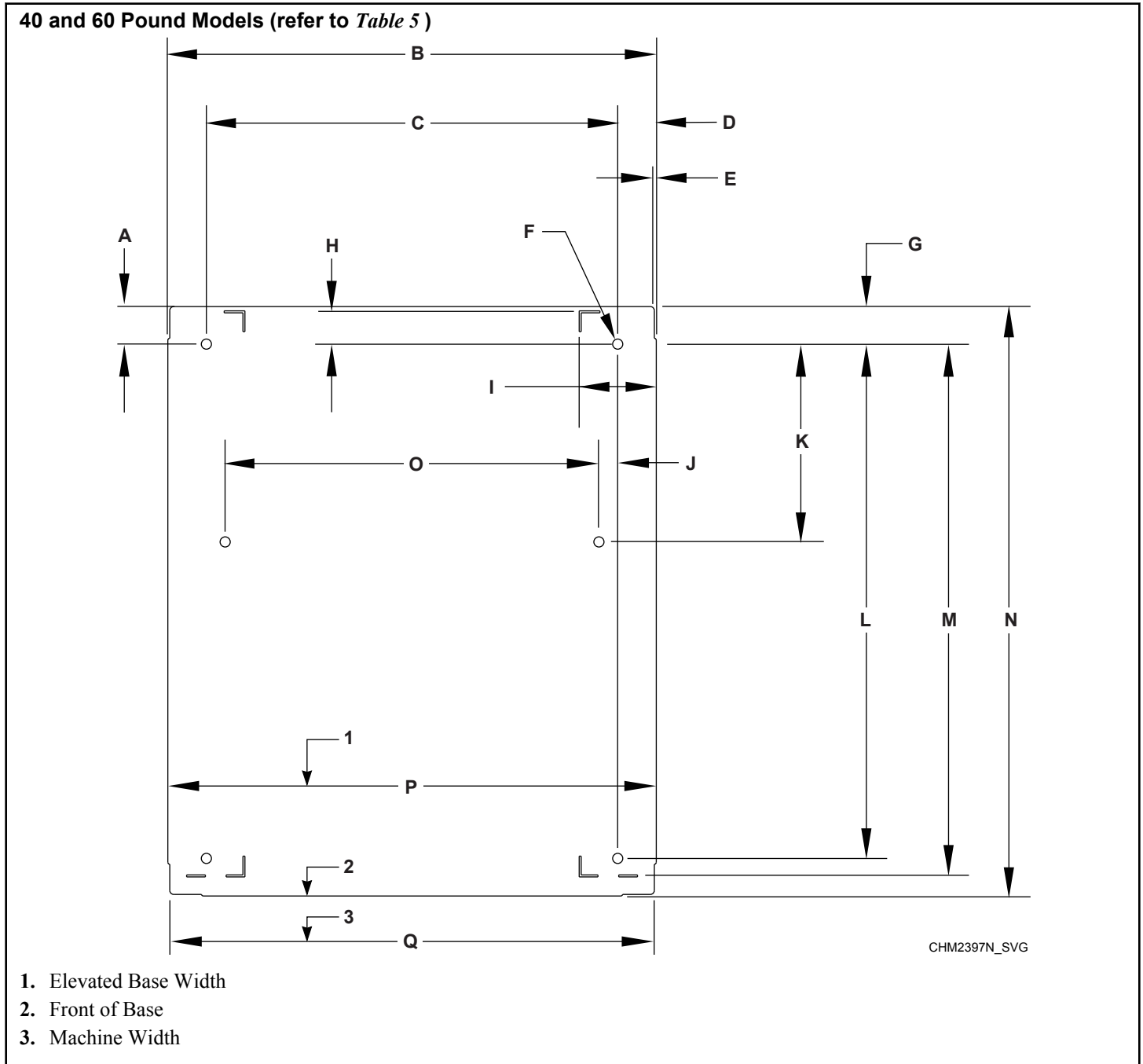


Figure 5

Mounting Bolt Hole Locations - 40 and 60 Pound Models, in. [mm]		
Specification	40	60
A	2 [51]	2 [51]

Table 5 continues...

<b>Mounting Bolt Hole Locations - 40 and 60 Pound Models, in. [mm]</b>		
<b>Specification</b>	<b>40</b>	<b>60</b>
<b>B</b>	30.88 [784]	34.44 [875]
<b>C</b>	26 [660]	30 [762]
<b>D</b>	2.44 [62]	2.22 [56]
<b>E</b>	0.12 [3]	0.12 [3]
<b>F</b>	0.64 [16]	0.64 [16]
<b>G</b>	2.37 [60]	2.37 [60]
<b>H</b>	2 [51]	1.75 [44]
<b>I</b>	4.75 [121]	5.15 [131]
<b>J</b>	1.19 [30]	1.25 [32]
<b>K</b>	12.5 [318]	11.93 [303]
<b>L</b>	32.5 [826]	36 [914]
<b>M</b>	33.54 [852]	36.87 [936]
<b>N</b>	37.25 [946]	40.5 [1029]
<b>O</b>	23.63 [600]	27.5 [699]
<b>P</b>	30.88 [784]	34.44 [875]
<b>Q</b>	30.63 [778]	34.19 [868]

Table 5



## Mounting Bolt Hole Locations – 80 and 100 Pound Models

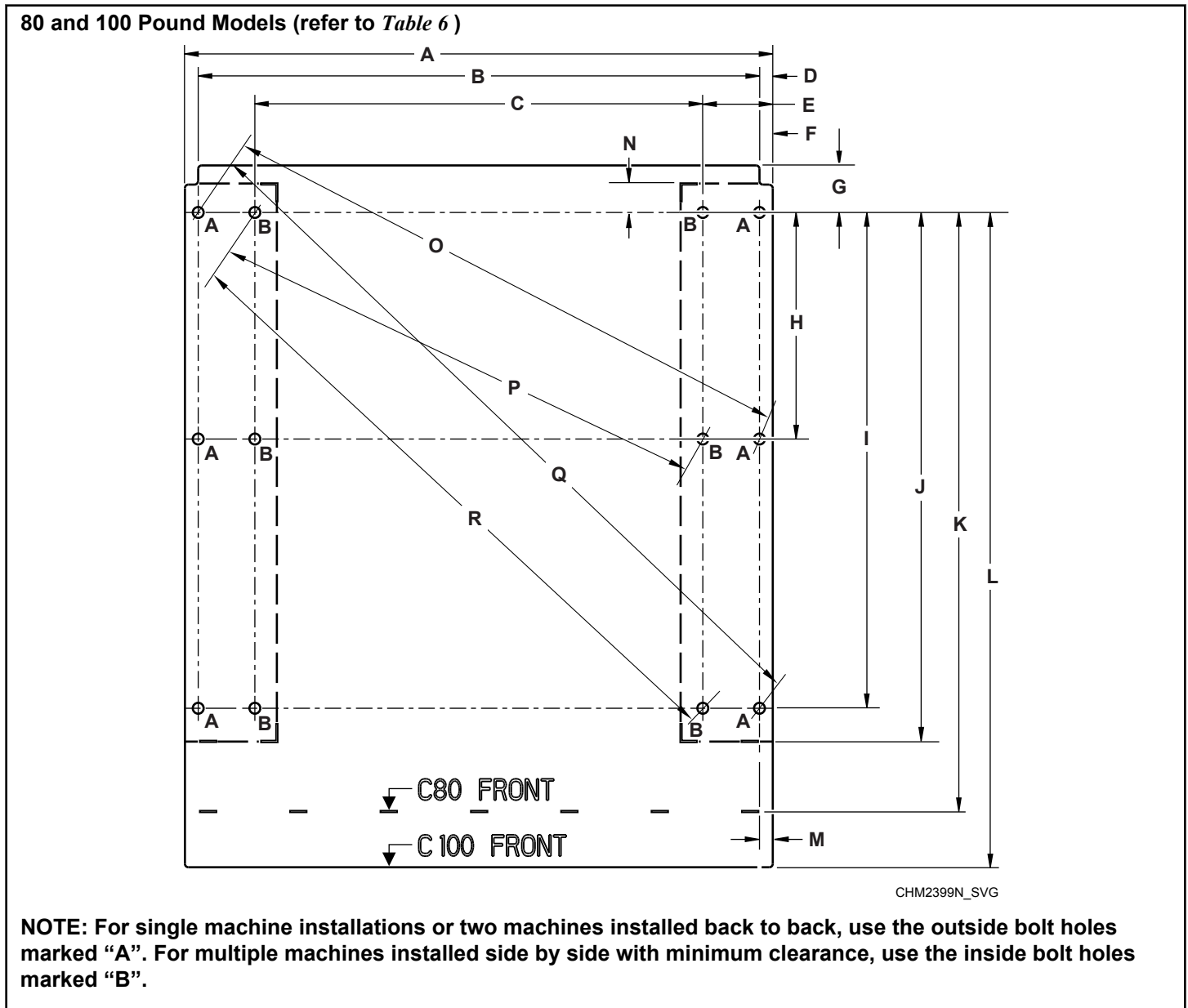


Figure 6

Mounting Bolt Hole Locations – 80 and 100 Pound Models, in. [mm]		
Specification	80	100
<b>A</b>	41.5 [1054]	41.5 [1054]
<b>B</b>	39.62 [1006]	39.62 [1006]
<b>C</b>	31.62 [803]	31.62 [803]

Table 6 continues...

Mounting Bolt Hole Locations – 80 and 100 Pound Models, in. [mm]			
Specification		80	100
<b>D</b>		.94 [24]	.94 [24]
<b>E</b>		4.94 [124]	4.94 [124]
<b>F</b>		6.63 [164]	6.63 [164]
<b>G</b>		3.3 [84]	3.3 [84]
<b>H</b>		16 [406]	16 [406]
<b>I</b>		35 [889]	35 [889]
<b>J</b>		37.3 [947]	37.3 [947]
<b>K</b>		42.2 [1073]	N/A
<b>L</b>		N/A	46.2 [1260]
<b>M</b>		1 [25]	1 [25]
<b>N</b>		1.96 [50]	1.96 [50]
<b>O</b>	<b>Outside</b>	42.72 [1085]	35.43 [900]
<b>P</b>	<b>Inside</b>	52.86 [1342]	47.16 [1197]
<b>Q</b>	<b>Outside</b>	35.43 [900]	42.72 [1085]
<b>R</b>	<b>Inside</b>	47.16 [1197]	52.86 [1342]
N/A = Not Applicable			

Table 6

## Floor Mounting Layout – 20-60 Pound Models

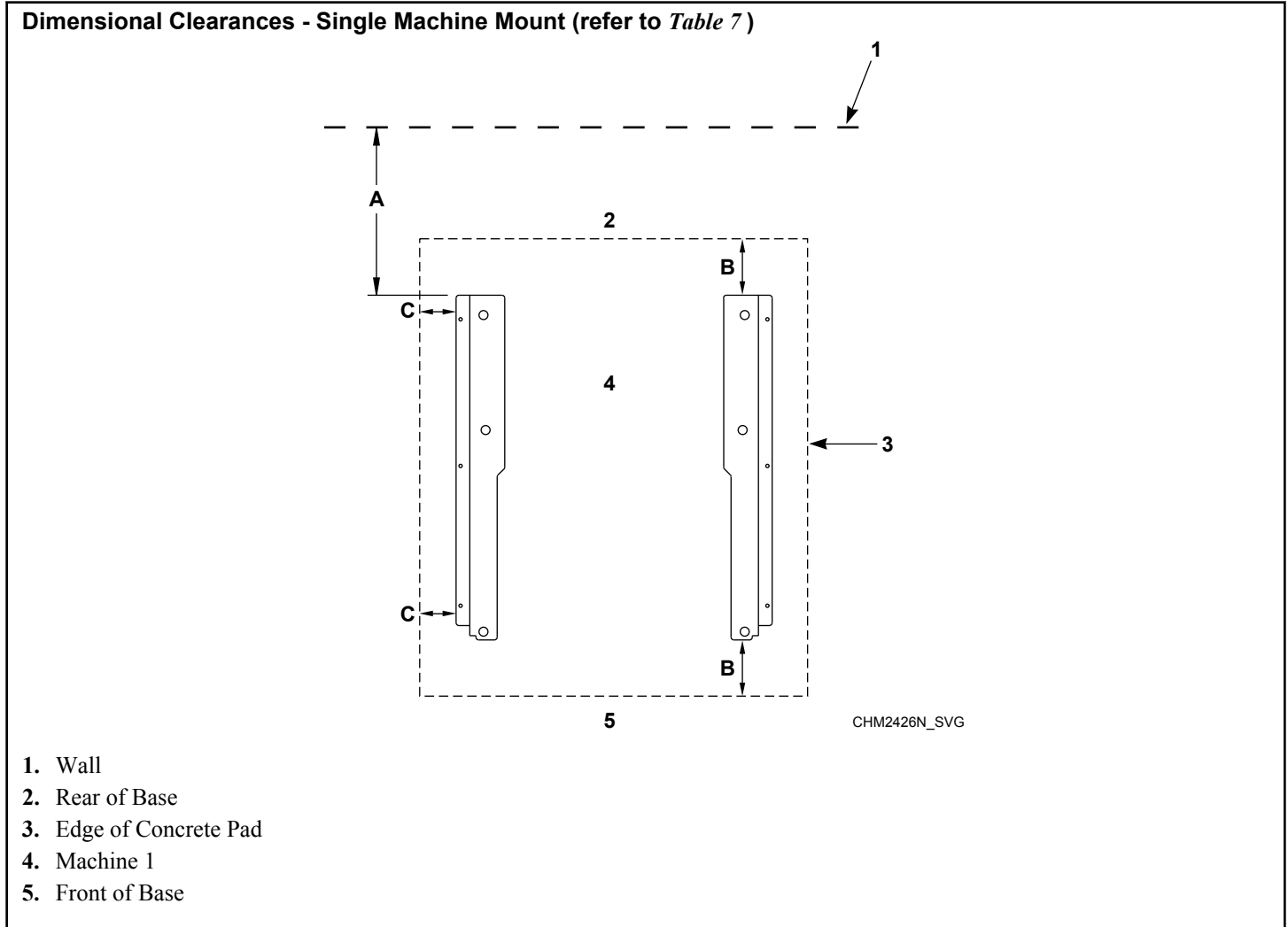


Figure 7

Dimensional Clearances - Single Machine Mount - 20-60 Pound Models, in. [mm]					
Description		20	30	40	60
<b>A</b>	Distance to wall (minimum)	24 [610]	24 [610]	24 [610]	24 [610]
<b>B</b>	Distance of machine base to edge of pad (minimum)	3.44 [87]	4 [102]	3.99 [101]	5.99 [152]
<b>C</b>	Distance of machine base to edge of pad (minimum)	2.52 [64]	2.51 [64]	2.81 [71]	5.18 [131]

Table 7

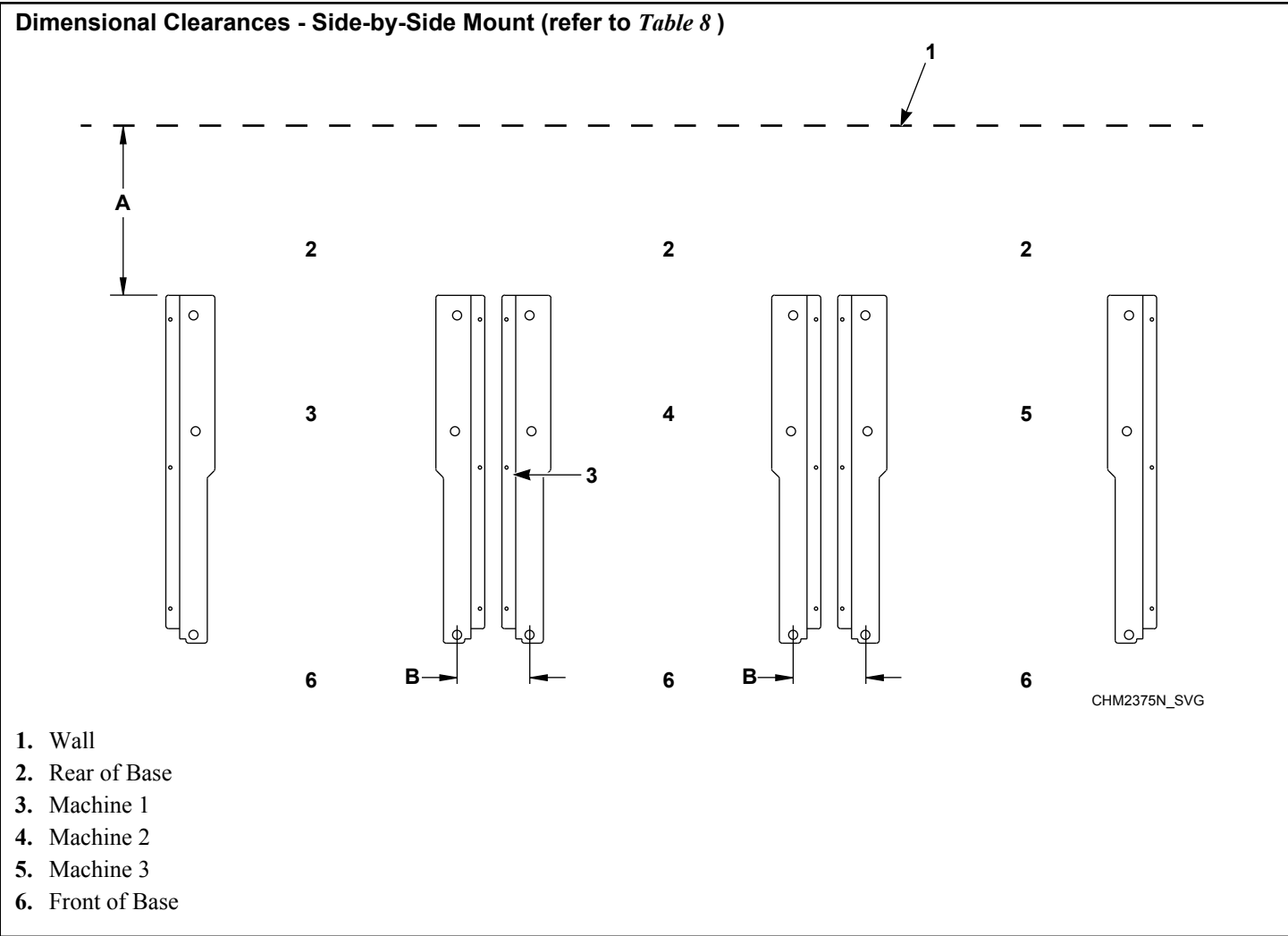
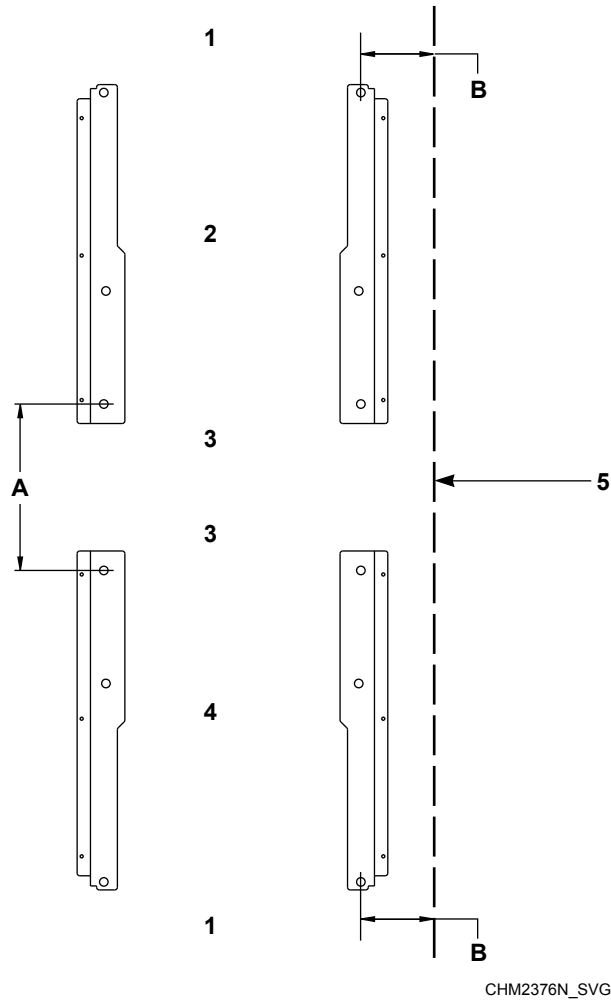


Figure 8

Dimensional Clearances - Side-by-Side Mount - 20-60 Pound Models, in. [mm]					
Description		20	30	40	60
A	Distance to wall (minimum)	24 [610]	24 [610]	24 [610]	24 [610]
B	Mounted without bases (minimum)	5.14 [131]	5.12 [130]	4.63 [118]	4.06 [103]
	Mounted with bases (minimum)	5.5 [139]	5.5 [139]	4.88 [124]	4.44 [112]

Table 8

**Dimensional Clearances - Back-to-Back Mount (refer to Table 9)**

- 1. Front of Machine
- 2. Machine 2
- 3. Rear of Machine
- 4. Machine 1
- 5. Edge of Concrete Pad

Figure 9

Dimensional Clearances - Back-to-Back Mount - 20-60 Pound Models, in. [mm]					
Description		20	30	40	60
<b>A</b>	<b>Adjacent rear bolt spacing (minimum)</b>	28.3 [719]	27.6 [702]	28.0 [710]	27.5 [699]
<b>B</b>	<b>Distance from front bolt to edge of pad (minimum)</b>	5.26 [134]	5.26 [134]	6.19 [157]	8.9 [226]

Table 9

Floor Mounting Layout – 80 and 100 Pound Models

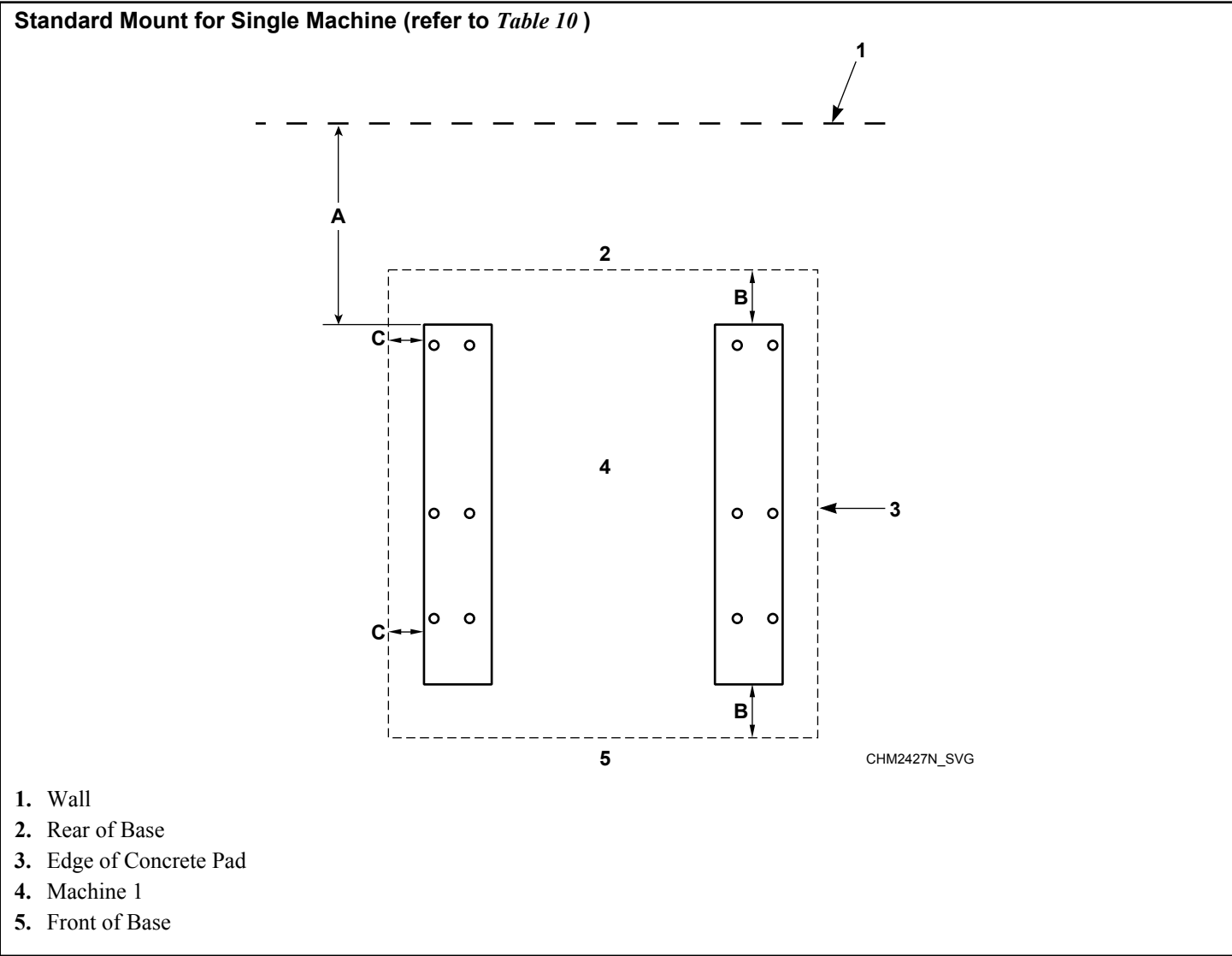


Figure 10

Standard Mount for Single Machine - 80 and 100 Pound Models, in. [mm]		
Description		80-100
A	Distance to wall (minimum)	24 [610]
B	Distance of machine base to edge of pad (minimum)	4.98 [126]
C	Distance of machine base to edge of pad (minimum)	8 [203]

Table 10

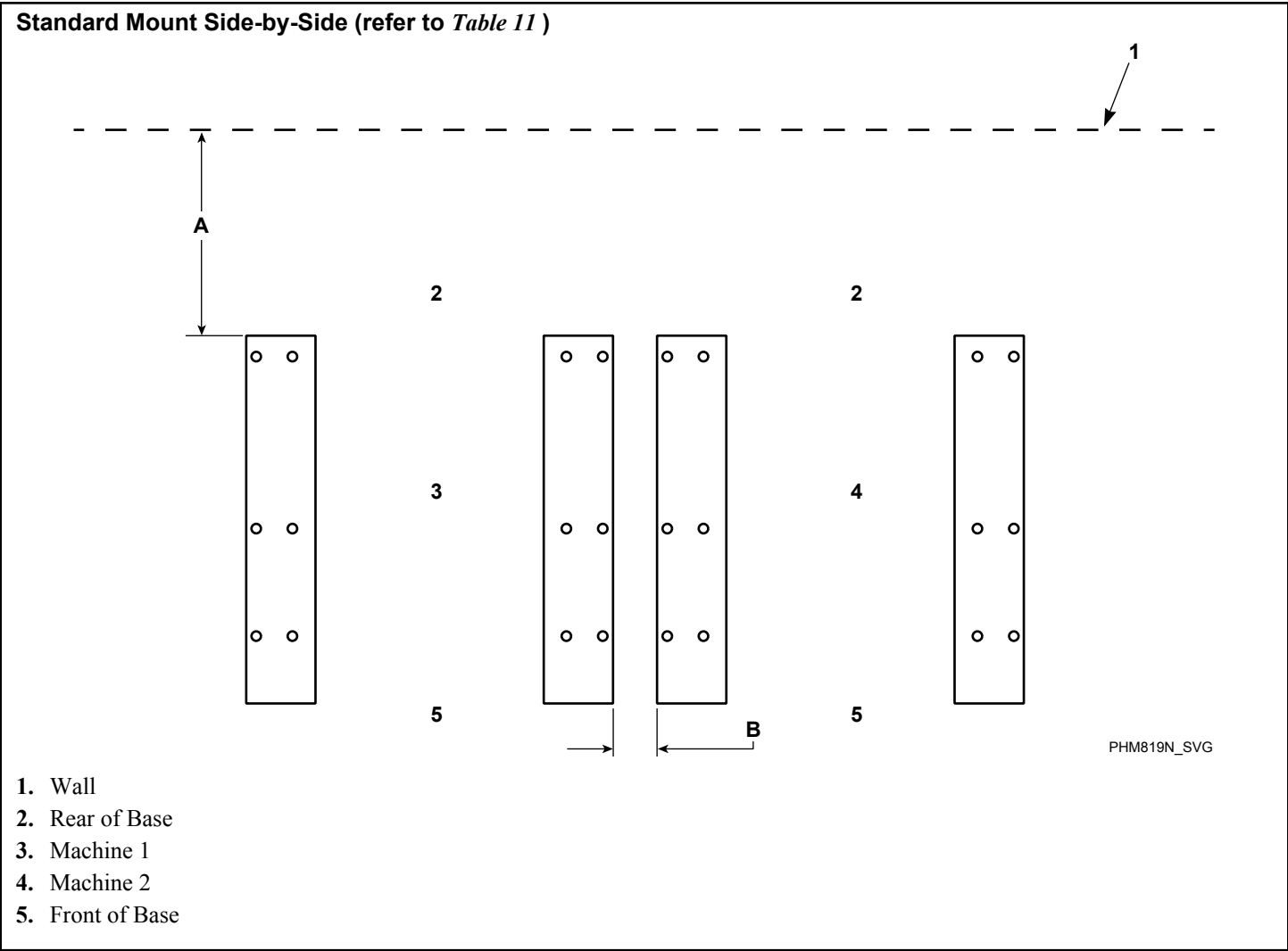


Figure 11

Standard Mount Side-by-Side - 80 and 100 Pound Models, in. [mm]		
Description		80-100
A	Distance to wall (minimum)	24 [610]
B	Adjacent unit bolt spacing (minimum)	6 [152]

Table 11

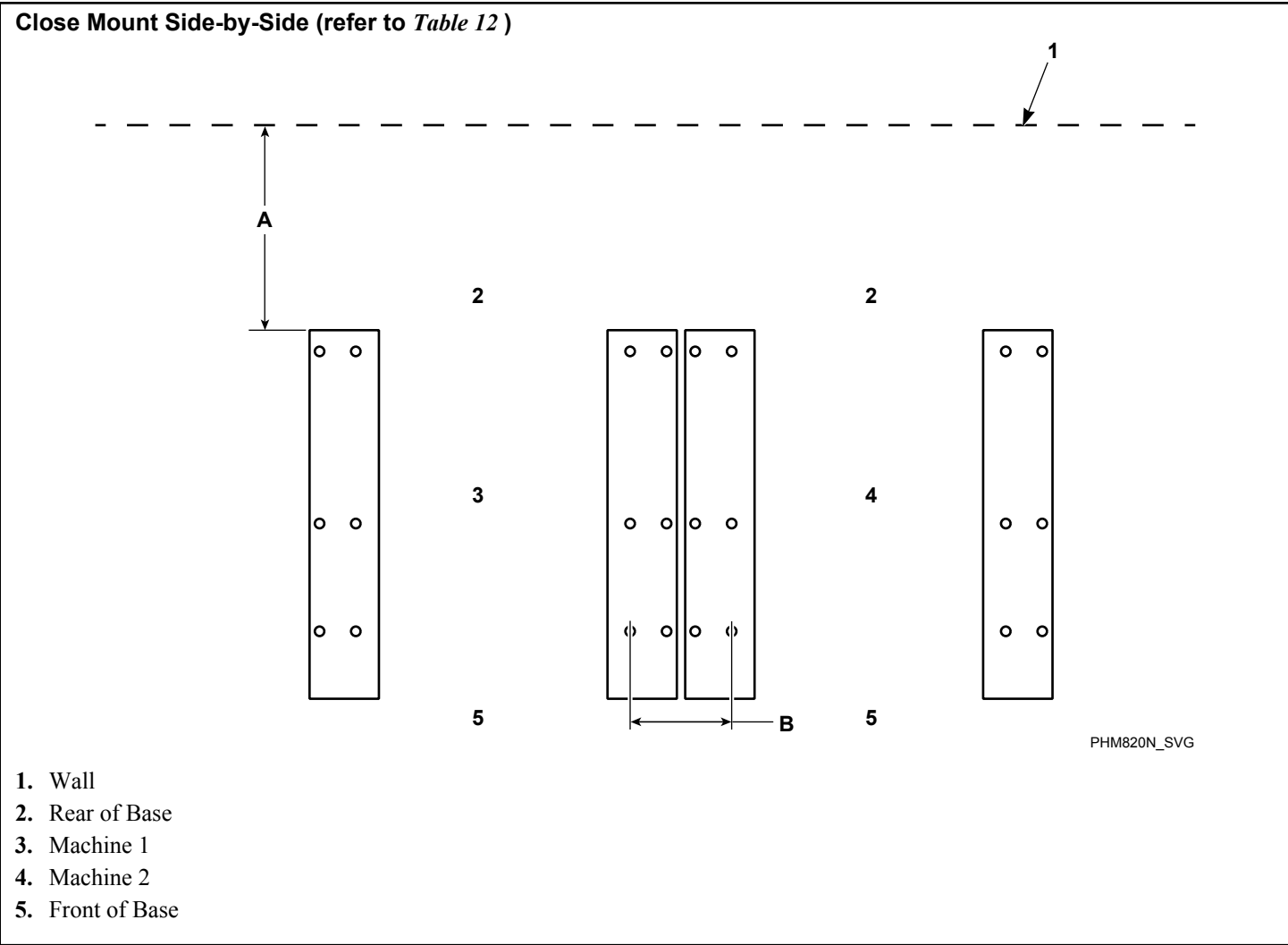
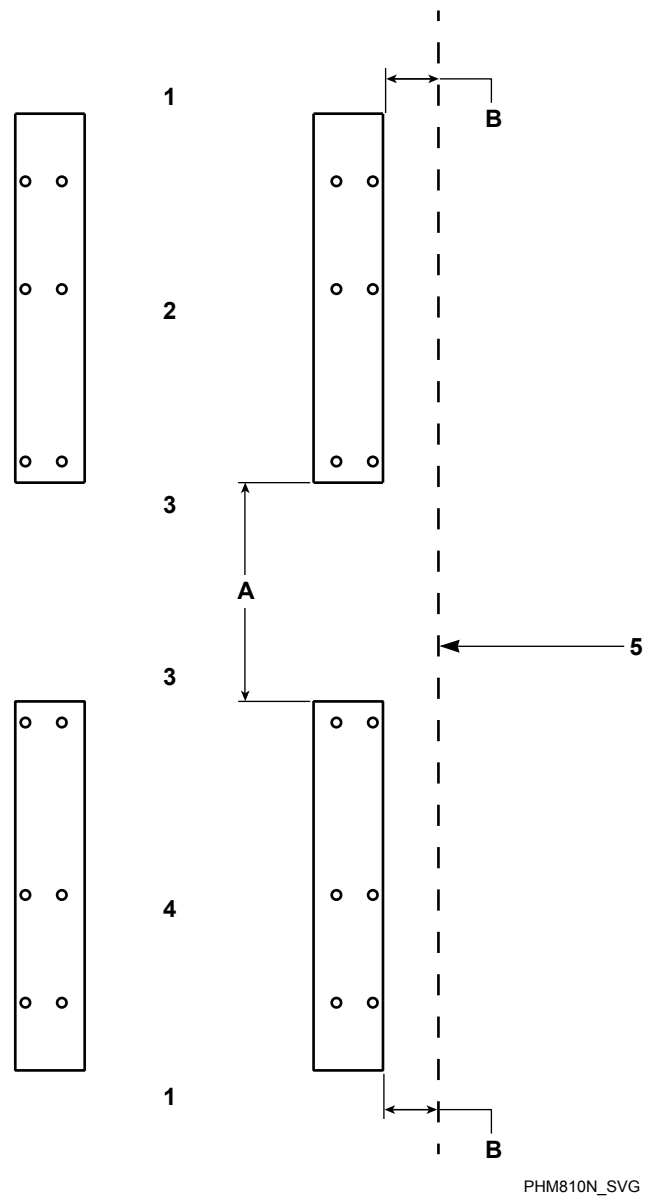


Figure 12

Close Mount Side-by-Side - 80 and 100 Pound Models, in. [mm]		
Description		80-100
A	Distance to wall (minimum)	24 [610]
B	Adjacent unit bolt spacing (minimum)	10.38 [264]
IMPORTANT: When close mounting, bolt machine using inside bolt holes.		

Table 12



**Back-to-Back Mount (refer to *Table 13* )**

PHM810N\_SVG

- 1. Front of Machine
- 2. Machine 2
- 3. Rear of Machine
- 4. Machine 1
- 5. Edge of Concrete Pad

Figure 13

Back-to-Back Mount - 80 and 100 Pound Models, in. [mm]		
Description		80-100
<b>A</b>	Adjacent rear bolt spacing (minimum)	33.3 [846]
<b>B</b>	Distance from front bolt to edge of pad (minimum)	8 [203]

Table 13

# Installation

## Pallet Jack Cover Plate Removal (80 and 100 Pound Models Only)

Prior to installing an 80 and 100 pound machine, the optional pallet jack cover plate can be removed in preparation of re-installing to machine base frame after machine installation.

1. Locate cover plate on back panel.
2. Remove back panel.
3. Remove all hardware holding cover plate on back panel, refer to *Figure 14*. DO NOT DISCARD HARDWARE.
4. Remove cover plate.

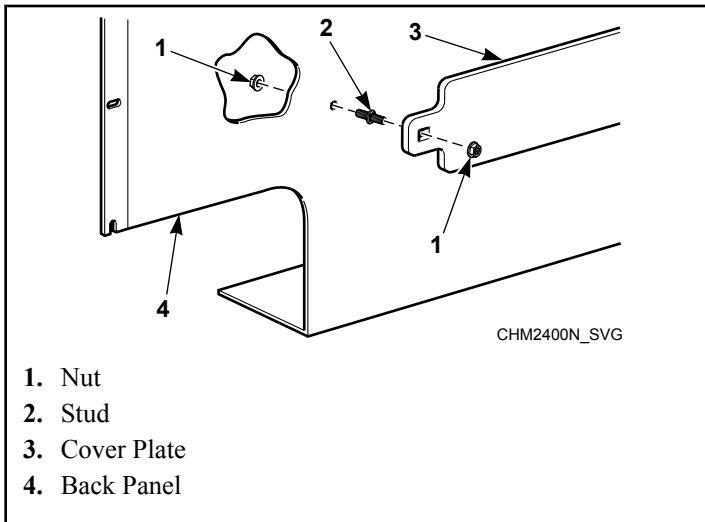


Figure 14

5. Re-install back panel.

**NOTE: Refer to *Pallet Jack cover Plate Installation (80 and 100 Pound Models Only)* section to install cover plate to machine base after machine installation.**

## Single Machine Foundation Requirements

A minimum 3500 psi (refer to rating per supplier) reinforced concrete set on a prepared bed is required for all new machine installations.

**NOTE: Do not mount on wooden floors, tile floors, elevated floor levels, stacked multiple base frames, or over basements or crawl spaces because of the high extract speed and the G-forces exerted. For 80 pound models and larger, do not mount on metal base frames.**

Thoroughness of detail must be stressed with all foundation work to ensure a stable unit installation, eliminating possibilities of excessive vibration during extract.



## WARNING

**To reduce the risk of fire, serious injury, property damage and/or death, install the machine on a level (within 3/8 inch), uncovered concrete floor of sufficient strength at grade.**

W787

For new foundations a mounting bolt template or an elevated metal base frame is available at extra cost. For all installations a concrete hardware kit is available at extra cost.

The machine must be anchored to a smooth level surface so that the entire base of the machine is supported and rests on the mounting surface.

**IMPORTANT: Do not permanently support the machine on only four points with spacers. Grouting is required and spacers must be removed.**

### Machine Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine model. The floor must be reinforced concrete without voids under slab. If the floor meets these requirements and an elevated pad is NOT desired, refer to *Figure 16* and proceed to *Machine Mounting and Grouting* section.

### Elevated Pad Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine. The floor must be reinforced concrete without voids under slab. If the slab meets these requirements and an elevated pad is desired, refer to *Figure 17* and proceed to *Machine Foundation and Pad Installation* section.

### Elevated Base Frame Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine. The floor must be reinforced concrete without voids under slab. If the slab meets these requirements and an elevated base frame is desired, refer to *Figure 16* and *Figure 18* and proceed to *Machine Mounting and Grouting* section.

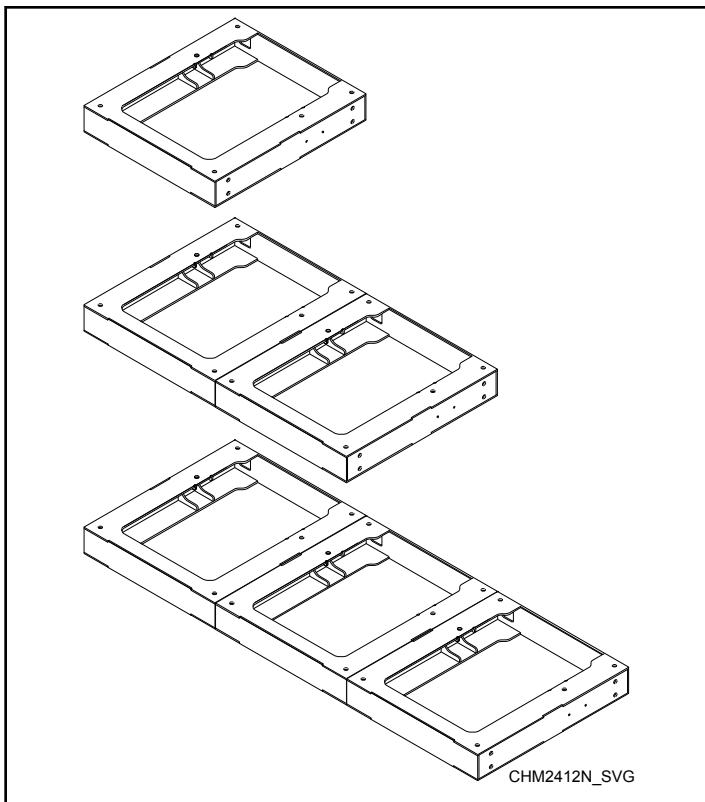


Figure 15

### New Foundation

If the existing floor slab does not meet the single machine foundation requirements per model, refer to *Figure 18* and proceed to *Machine Foundation and Pad Installation* section.

### Isolated Pad Installation

This type of installation is NOT recommended. Installer MUST consult a Structural Engineer for concrete specifications and requirements for installations that will not be tied into adjacent foundations.

**IMPORTANT:** The above instructions and recommendations are conservative specifications for a typical installation based on consultations with a structural engineer. Alliance Laundry Systems stands behind all installations meeting these specifications. For alternate installation specifications based on your soil type, location, building structure, unique floor geometry, machine types, and utilities, consult a structural engineer in your local area.

## Machine Foundation and Pad Installation

A concrete pad may be constructed to elevate a machine. Care must be exercised in the design of the pad due to the force exer-

ted by the machine during extract. This concrete pad, recommended not to exceed 8 inches [203 mm] above existing floor, must be placed, reinforced with rebar and tied to the existing floor. Refer to *Table 14*, *Figure 16*, *Figure 17* and *Figure 18* for multiple machine installations.

Machine Foundation and Pad Installation, in. [mm]						
Specification		20	30	40	60	80-100
Minimum Foundation Thickness	F-speed	4 [102]	4 [102]	4 [102]	4 [102]	6 [152]
	V-speed			6 [152]	6 [152]	9 [229]
Minimum Excavation Depth	F-speed	8 [203]	8 [203]	8 [203]	8 [203]	12 [305]
	V-speed			12 [305]	12 [305]	15 [381]
Minimum Pad Size						
Single machine (WxD)		31.4 x 34.8 [798 x 884]	34.4 x 39.5 [874 x 1003]	36.5 x 43.5 [927 x 1105]	44.8 x 50.6 [1139 x 1285]	57.5 x 49.2 [1461 x 1250]
Two machines, Side-by-side (WxD)		57.54 x 34.8 [1462 x 884]	63.52 x 39.5 [1613 x 1003]	67.38 x 43.5 [1711 x 1105]	78.98 x 50.6 [2006 x 1285]	99.5 x 49.2 [2527 x 1250]
Two machines, Back-to-back (WxD)		31.4 x 88.63 [798 x 2251]	34.4 x 98.37 [874 x 2499]	36.5 x 115.23 [927 x 2927]	44.8 x 119.48 [1138 x 3035]	51.5 x 130.56 [1308 x 3316]
NOTE: Inside and outside mounting only available on 80 and 100 pound models.						
N/A = Not Applicable						

Table 14

**IMPORTANT: Do NOT install a pad on top of the existing floor. The foundation and pad must be constructed and tied together as one piece.**

If the existing floor is not reinforced concrete at least of minimum thickness (depending on model), an elevated pad is desired or multiple machines are to be installed, the following steps must be performed (refer to *Figure 16*, *Figure 17*, and *Figure 18*):

1. Cut a hole larger on all sides than the machine base through the existing floor, refer to *Table 14*.
2. Excavate to a depth as indicated in *Table 14* from the top of the existing floor.
3. If installing a foundation with elevated pad, prepare a form for the above-ground portion of the foundation. Verify that the top of the foundation is level. The height of the foundation pad must not exceed 8 inches [203 mm] above the existing floor.
4. Backfill with clean fill dirt.
5. Compact backfill, making sure to allow for correct concrete thickness.
6. Drill holes [refer to manufacturer's requirements for drill hole size] for the perimeter reinforcing bar at a depth of 2.5 inches [64 mm] into the existing floor. The reinforcing should be 12 inches [305 mm] on center each way around entire perimeter.

7. Clean out debris from each reinforcing bar hole.
8. Fill half the hole depth with acrylic adhesive.
9. Using #4 (60 ksi) reinforcing bar, tie new pad to existing floor making sure to tie reinforcing bars at the intersections and using proper reinforcing bar supports to hold bars at the proper depth in the pad.
10. Allow adhesive around reinforcing bar to cure properly, refer to adhesive manufacturer for recommended cure times.
11. Completely fill with 3500 psi minimum concrete up to the existing foundation level plus any added level (maximum of 8 inches [203 mm]) for the desired elevated pad. The concrete must be poured so that the entire foundation and pad cures as one piece.
12. Allow concrete to cure, refer to manufacturer's recommended cure times.
13. Using a mounting bolt template, elevated base frame or the machine base, mark where the holes should be drilled to mount the machine.

**NOTE: As an alternate method, cast in the Grade 5 (minimum SAE rating), 5/8 inches [16 mm] for 20-60 pound models and 3/4 inch [19 mm] for 80-100 pound models anchor bolts as the concrete is poured, refer to *Figure 20* and *Table 18*.**

**14.** Proceed to *Machine Mounting and Grouting* section.

# Machine Installation

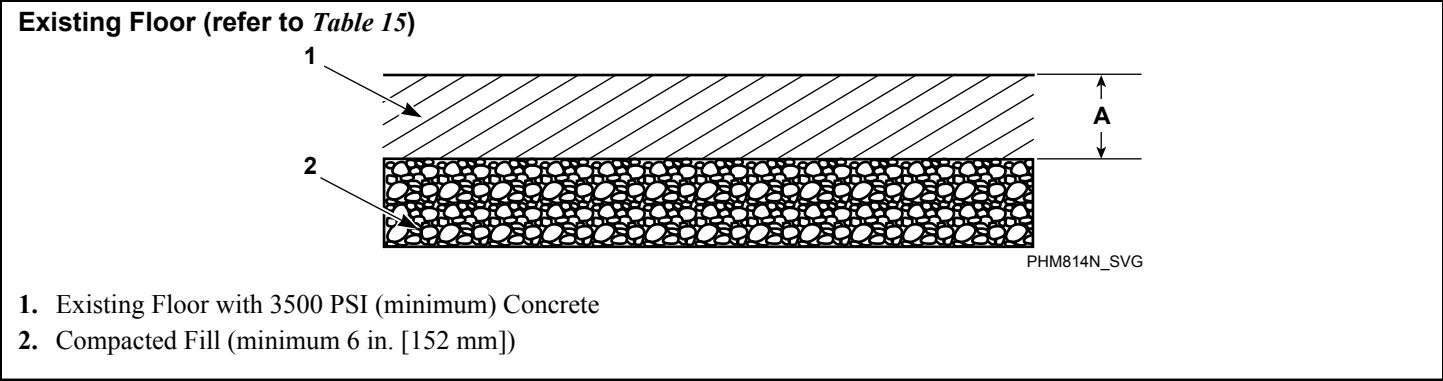


Figure 16

Existing Floor, in. [mm]				
Description		20-30	40-60 (F-speed)	40-60 (V-speed)
				80-100
A	Required thickness of existing floor (minimum)	4 [102]	4 [102]	6 [152]
				9 [229]

Table 15

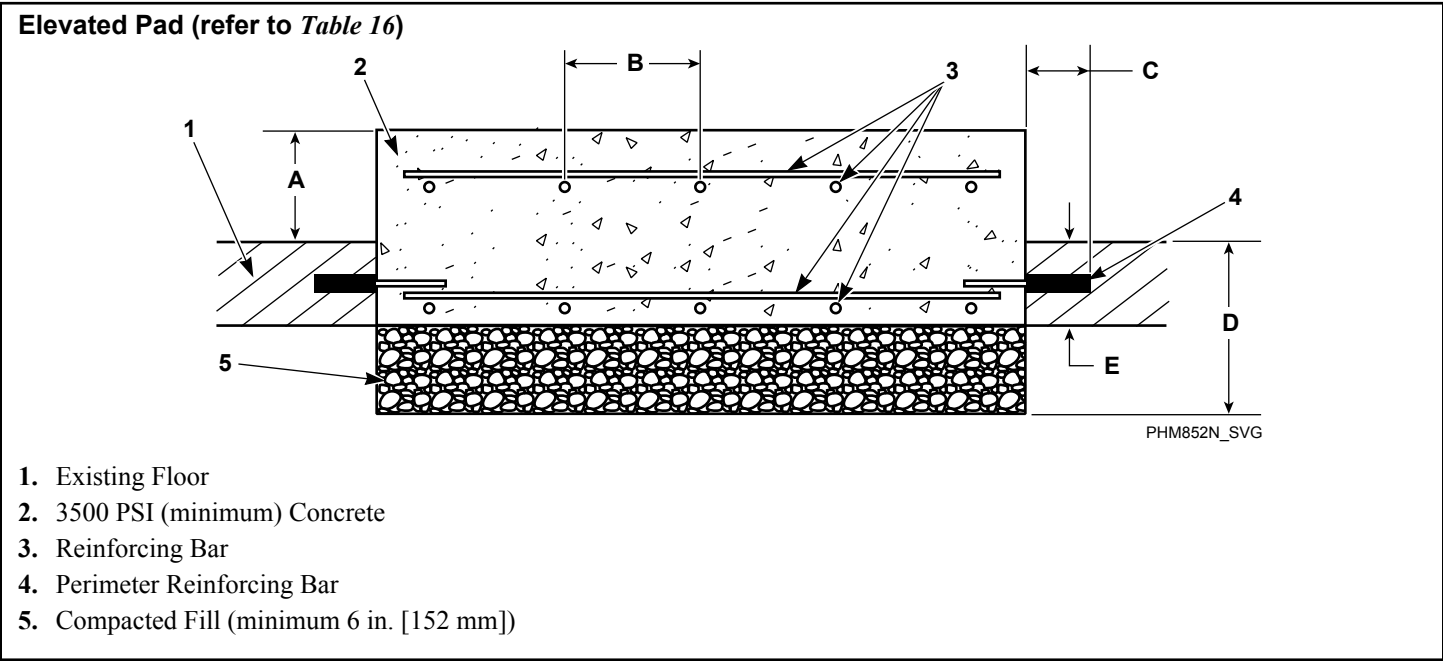


Figure 17

Elevated Pad, in. [mm]					
Description		20-30	40-60 (F-speed)	40-60 (V-speed)	80-100
<b>A</b>	Height of elevated pad above floor (maximum)	8 [203]	8 [203]	8 [203]	8 [203]
<b>B</b>	Distance between reinforcing bars (maximum)	12 [305]	12 [305]	12 [305]	12 [305]
<b>C</b>	Length of reinforcing bar extending in- to existing floor (minimum)	2.5 [64]	2.5 [64]	2.5 [64]	2.5 [64]
<b>D</b>	Total depth of foundation (concrete plus 6 in. [152 mm] fill) (minimum)	8 [203]	8 [203]	12 [305]	15 [381]
<b>E</b>	Required thickness of existing floor (minimum)	4 [102]	4 [102]	6 [152]	6 [152]

Table 16

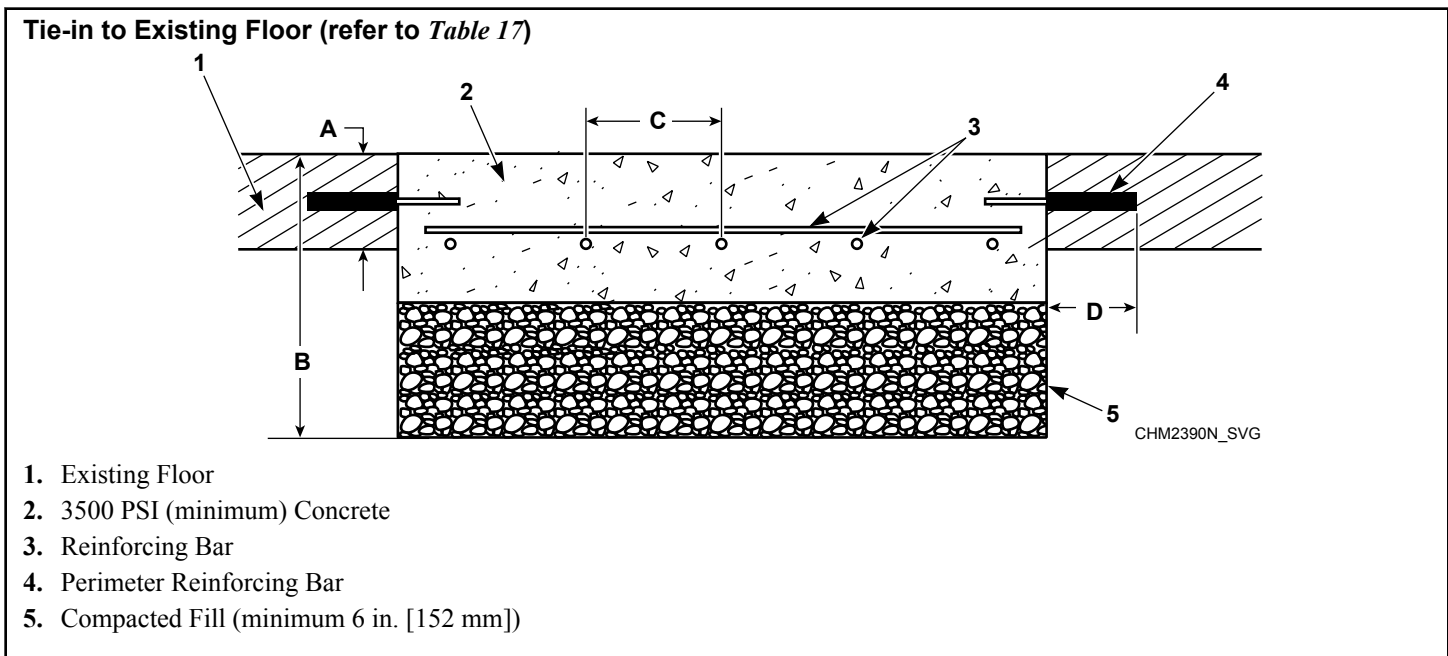


Figure 18

Tie-in to Existing Floor, in. [mm]					
Description		20-30	40-60 (F-speed)	40-60 (V-speed)	80-100
<b>A</b>	Required thickness of existing floor (minimum)	4 [102]	4 [102]	6 [152]	6 [152]

Table 17 continues...



Tie-in to Existing Floor, in. [mm]					
Description		20-30	40-60 (F-speed)	40-60 (V-speed)	80-100
<b>B</b>	Total depth of foundation (concrete plus 6 in. [152 mm] fill)(minimum)	8 [203]	8 [203]	12 [305]	15 [381]
<b>C</b>	Distance between reinforcing bars (minimum)	12 [305]	12 [305]	12 [305]	12 [305]
<b>D</b>	Length of reinforcing bar extending in-to existing floor (minimum)	2.5 [64]	2.5 [64]	2.5 [64]	2.5 [64]

Table 17

## Machine Mounting and Grouting


**NOTE:** After the concrete has cured completely and the cast-in-place method was used, refer to *Figure 20* and proceed to step 7. If acrylic adhesive anchors are desired, refer to *Figure 19* and proceed with step 1 after concrete has cured completely.

1. Refer to *Table 18* to set the drill depth gauge.
2. Drill the holes to the set depth.
3. Use compressed air or squeeze bulb to clean out debris from each hole.
4. Fill half the hole depth with an industry-accepted adhesive anchoring system.
5. Insert anchor bolt until it reaches the bottom. Refer to *Table 18*.
6. Ensure all air pockets are removed from adhesive surrounding the bolt.
7. Allow adhesive around bolt to cure completely.
8. Remove shipping materials and place the machine or elevated base frame carefully over the bolts.

**NOTE:** Never attempt to lift the machine by the door handle or by pushing on the cover panels. Always insert a pry bar or other lifting device under the bottom frame of the machine to move it.

**IMPORTANT:** DO NOT install 80 pound or larger machines on an elevated metal base frame.

9. Raise and level the machine or elevated base frame 0.5 inch [1.27 cm] off the floor on four corners, using spacers such as nut fasteners.

	<b>WARNING</b>
<p><b>Crush hazard. To avoid personal injury and/or property damage, do not tip the machine more than 25 degrees in any direction.</b></p> <p style="text-align: right;">W793</p>	

10. Completely fill the space between the elevated base frame or machine base and the floor with a good quality **non-shrinking machinery precision grout** to ensure a stable installation. Grout completely under frame. Remove front panel and back panel to gain access to **entire perimeter of base plates**. Force grout under base until all voids are filled.

**IMPORTANT:** Minimum Grade 5, SAE rating, flat washers and minimum Grade 5, SAE rating, serrated hex flange locknuts are the recommended hardware for anchoring machine or elevated base frame to anchor bolts.

11. Position the flat washers and locknuts on the anchor bolts and finger-tighten to machine base or elevated base frame.
12. Allow machine grout to set, but not cure.

**IMPORTANT:** Refer to bolt manufacturer's recommended adhesive cure times.

13. Remove the spacers carefully, allowing the machine base or elevated base frame to settle into the wet grout.

**NOTE:** If installing a 20 through 60 pound model directly to finished floor, wait until grout is completely cured and skip to Step 18. If installing on elevated base frame, proceed to Step 14.

### 20-60 Pound Models

14. After the grout is completely cured, position the machine over the elevated base frame.
15. Align the mounting holes on the machine with the corresponding holes on the elevated base frame.
16. Install a bolt, flat washer and locknut in each mounting hole.

**17. Hand tighten each nut.**

- a. Tighten the two rear nuts two turns.
- b. Tighten the two front nuts two turns.
- c. Tighten the two middle nuts firmly.

**18. Torque all the locknuts to  $90 \pm 9$  ft.-lbs. – one after the other – until all are tightened evenly and the machine is fastened securely to the elevated base frame or floor.**

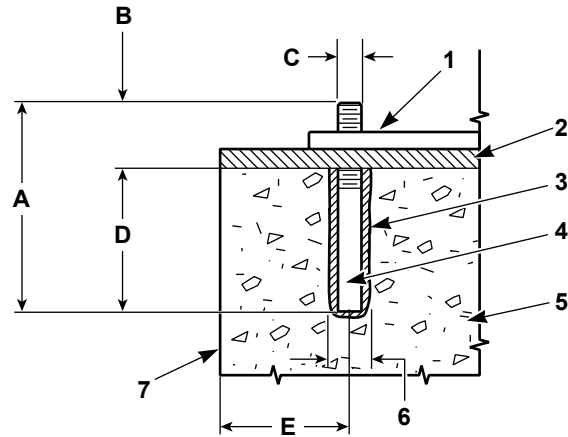
**19. After the grout is completely cured, torque the locknuts to  $150 \pm 15$  ft.-lbs. – one after the other – until all are tightened evenly and the machine is fastened securely to the floor.**

**IMPORTANT: Refer to recommended grout cure times from manufacturer before torquing locknuts.**

**NOTE: Check and retighten the locknuts after five to ten days of operation and every month thereafter.**

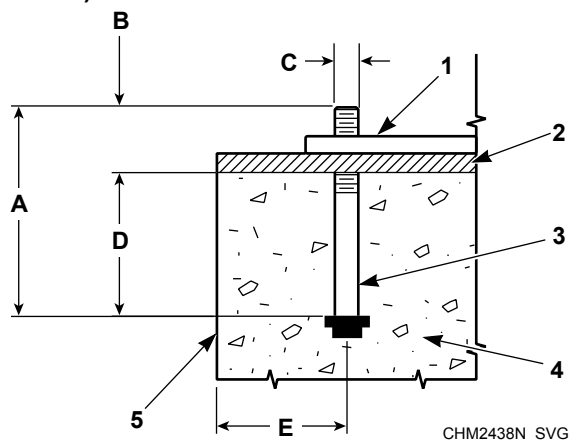
**80 Pound and Larger Models**

**Acrylic Adhesive Anchors (refer to Table 18 )**



1. Machine Frame Base
2. Grout 0.5 in. [13 mm]
3. Acrylic Adhesive
4. Anchor Bolt (minimum Grade 5 SAE rating)
5. Concrete
6. Drill Hole Size per Manufacturer Requirements
7. Edge of Pad

Figure 19

**Cast-in-place Anchors (refer to Table 18)**

1. Machine Frame Base
2. Grout
3. Anchor Bolt (minimum Grade 5 SAE rating)
4. Concrete
5. Edge of Pad

Figure 20

Minimum Anchoring Specifications, in. [mm]				
Description		20-40	60	80-100
Number of Bolts		4 or 6*	6	6
A	Bolt Length	6 [152]	6 [152]	8.75 [216]
B	Thread Extension	2.5 [64]	2.5 [64]	2.75 [64]
C	Bolt Diameter	5/8 [16]	5/8 [16]	3/4 [19]
D	Embedment Depth	3.5 [89]	3.5 [89]	6 [152]
E	Distance from Bolt Center to Edge of Concrete Pad	Refer to <i>Table 8</i>	Refer to <i>Table 8</i>	Refer to <i>Table 11</i>
* On 20-40 pound models, the four (4) corner bolts are required and the two (2) center bolts are optional when mounting a machine or elevated base frame to floor.				

Table 18

Floor Load Data						
Specification	20	30	40	60	80	100
Static floor load, lbs. [kN]	420 [1.87]	570 [2.54]	700 [3.11]	940 [4.18]	1550 [6.89]	1670 [7.51]
Static pressure, lbs.-ft <sup>2</sup> [kN-m <sup>2</sup> ]	96 [4.60]	99 [4.74]	100 [4.79]	106 [5.08]	137 [6.56]	147 [7.04]

Floor Load Data							
Specification		20	30	40	60	80	100
Dynamic floor load, lbs. [kN]		420 [1.86]	630 [2.80]	840 [3.74]	1260 [5.61]	1680 [7.48]	1680 [7.48]
Dynamic floor pressure, lbs.-ft <sup>2</sup> [kN-m <sup>2</sup> ]		96 [4.60]	109 [5.22]	119 [5.70]	143 [6.85]	149 [7.13]	149 [7.13]
Dynamic load frequency, Hz	F-speed	9.7	9.0	8.6	8.1	7.4	7.4
	V-speed	13.7	12.8	12.2	11.4	10.4	9.5
Maximum moment about machine base, lbs.-ft. [kN-m]		805 [1.09]	1260 [1.71]	1820 [2.47]	2770 [3.76]	4330 [5.87]	4330 [5.87]
Maximum vertical load, lbs. [kN]		795 [3.54]	1150 [5.12]	1470 [6.54]	2080 [9.25]	3050 [13.57]	3140 [13.82]
N/A = Not Applicable							

Table 19

## Drain Connection

**IMPORTANT: Machine must be installed in accordance with all local codes and ordinances.**

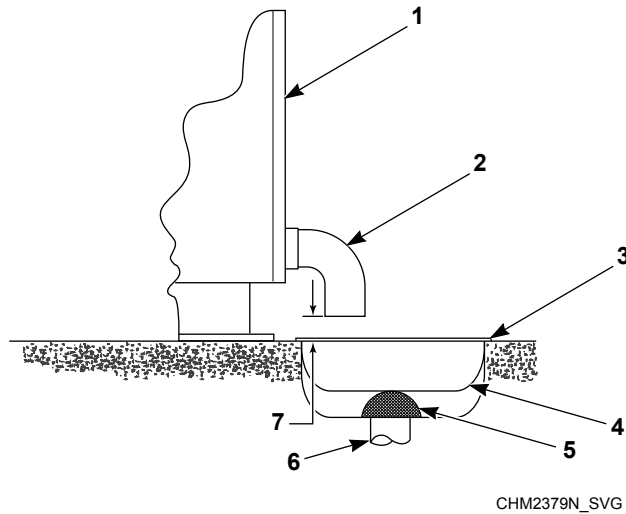
All drain systems must be vented to prevent an air lock or siphoning.

Use the supplied black rubber adapter and clamps to transition from the machine drain outlet to the 2 inches [51 mm] schedule

40 PVC plumbing (20 and 30 models) and the 3 inches [76 mm] schedule 40 PVC plumbing (40-100 models).

If proper drain size is not available or practical, a surge tank is required. A surge tank along with a sump pump should be used when gravity drainage is not possible.

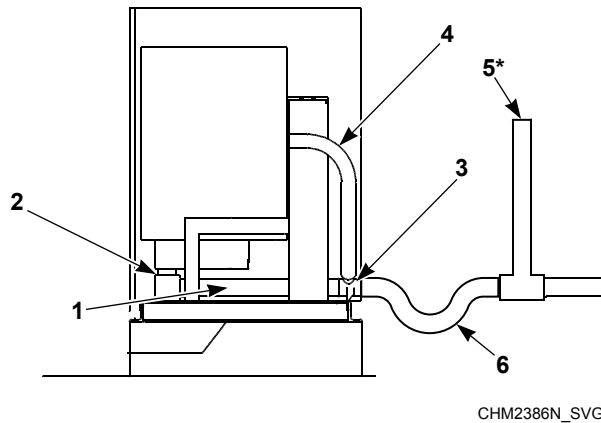
## Drain Trough System



1. Rear of Machine
2. Drain Pipe
3. Steel Grate
4. Drain Trough
5. Strainer
6. Waste Line
7. 1 in. [25 mm] minimum gap

Figure 21

## Direct Drain System



\* Drain line must be vented to meet local plumbing codes.

1. Drain Hose
2. Drain Valve
3. Drain Tee
4. Overflow Hose
5. Vent Pipe\*
6. Trap (as required by local codes)

Figure 22

**IMPORTANT:** Increasing the drain hose length, installing elbows, or causing bends will decrease drain flow rates and increase drain times, impairing machine performance.

**NOTE:** Installation of additional machines will require larger drain connections. Refer to *Drain Line Sizing / Minimum Drain ID*.


Drain Information						
Specification	20	30	40	60	80	100
Drain connection size, in. [mm]	2 [51]	2 [51]	3 [76]*	3 [76]*	3 [76]*	3 [76]*
Overflow drain connection size, in. [mm]	1.5 [457]	1.5 [457]	1.5 [457]	1.5 [457]	2.25 [686]	2.25 [686]
Number of drain outlets	1	1	1	1	1	1
Drain flow capacity, gal/min [l/min]	25 [95]	30 [114]	40 [151]	50 [189]	55 [208]	55 [208]
Recommended drain pit size, ft <sup>3</sup> [l]	2.0 [57]	2.5 [71]	3.5 [128]	5.7 [99]	8.0 [221]	9.5 [269]
* Also works with 3 in. [76 mm] OD PVC pipe if connected to inside of drain tee connector.						

Table 20

Drain Line Sizing / Minimum Drain ID, in. [mm]					
Model	Number of Machines				
	1	2	3	4	5
20	2 [50]	3 [76]	3 [76]	4 [102]	4 [102]
30	2 [50]	3 [76]	3 [76]	4 [102]	4 [102]
40	3 [76]	4 [102]	4 [102]	4 [102]	6 [152]
60	3 [76]	4 [102]	4 [102]	4 [102]	6 [152]
80-100	3 [76]	6 [152]	6 [152]	8 [203]	8 [203]

Table 21

## Water Connection Requirements

	<h3>WARNING</h3>
<p><b>To prevent personal injury, avoid contact with inlet water temperatures higher than 125° Fahrenheit [51° Celsius] and hot surfaces.</b></p>	
<p>W748</p>	

The maximum water inlet temperature for vended models is 125°F [51°C] and the recommended maximum water inlet tem-

perature for on-premises models is 150°F [66°C] (standard models) or 140°F [60°C] (WRAS approved models).

Connections should be supplied by a hot and a cold water line of at least the sizes shown in *Water Supply Line Sizing*. Installation of additional machines will require proportionately larger water lines.

Connections should be supplied by a hot and a cold water line per national and local codes and in accordance with AS/NZS 3500.1.

To connect water service to a machine with hoses, use the following procedure:

1. Before installing hoses, flush the building's water system at the machine connection valves for at least two (2) minutes.

2. Check filters in the machine's inlet hoses for proper fit and cleanliness before connecting.
3. Hang hoses in a large loop; do not allow them to kink.

If additional hose lengths are needed or using hoses other than those supplied by manufacturer, flexible hoses with screen filters are required.

Cabinet Hardmount Water Supply Information		
Specification	Model	Requirement
Water Inlet Connection size, in. BSP [mm]	20-100	3/4 [19]
Thread pitch, GHT [BSPP]	20-100	3/4 x 11.5 [3/4 x 14]
Number of water inlets	20-100	2
Number of auxiliary water inlets	80-100 (standard models)	2
	80-100 (WRAS- approved models)	0
Recommended pressure, psi [bar]	20-100	20-85 [1.4-5.7]
Inlet flow capacity per inlet, gal/min at 85 psi [l/min at 5.5 bar]	20-100	5.2 [20]
	80-100 (auxillary water inlets)	4.0 [15]

Table 22

Water Supply Line Sizing, in. [mm]		
Number of Machines	Supply Line Size	
	Main	Hot/Cold
1	.75 [19]	.75 [19]
2	1 [25]	.75 [19]
3	1.25 [32]	1 [25]
4	1.5 [38]	1 [25]

Table 23

Suitable air cushions (risers) should be installed in supply lines to prevent “hammering.” Refer to *Figure 23* .

Alliance Laundry Systems, LLC ranges of front loading commercial clothes washing machines have solenoid valves at the inlets. The water supply to the washing machines is supplied with an AB air gap between the soap tray and the drum. Minimum and maximum working pressure 1.4 bar and 8.3 bar. The machines are supplied with approved inlet hoses with a maximum inlet dimension of 0.50 inch [15 mm] (ID).

**NOTE: This machine has a fluid category 5 backflow prevention device built in between the soap tray and drum.**

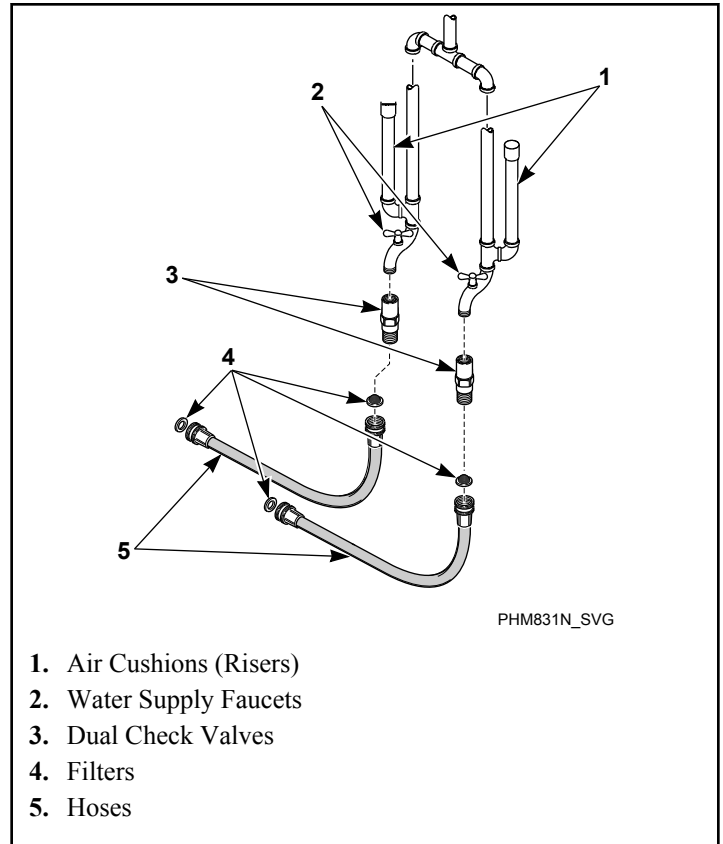


Figure 23

To comply with WRAS (IRN R150) and Australian water regulations, European standard EN1717 and Australian standard ATS5200.101, an approved double check valve backflow prevention device with the watermark is provided with the unit and must be fitted at the point of connection(s) between the supply and the fitting. Refer to *Figure 23* .

**NOTE: No more than two (2) water connection hoses should be used on WRAS-approved models.**



Figure 24



Figure 25

## Electrical Installation Requirements

**IMPORTANT:** Electrical ratings are subject to change. Refer to serial plate for electrical ratings information specific to your machine.

	<h3>DANGER</h3>
<p>Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait five (5) minutes before servicing.</p>	
<p>W810</p>	

	<h3>WARNING</h3>
<p>Dangerous voltages are present inside the machine. Only qualified personnel should attempt adjustments and troubleshooting. Disconnect power from the machine before removing any cover and guards, and before attempting any service procedures.</p>	
<p>W736</p>	

	<h3>WARNING</h3>
<p>Hazardous Voltage. Can cause shock, burn or death. Verify that a ground wire from a proven earth ground is connected to the lug near the input power block on this machine.</p>	
<p>W360</p>	

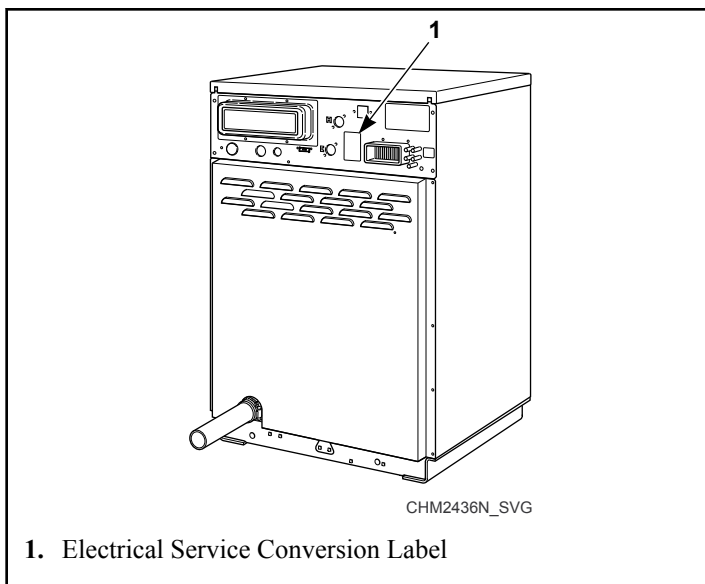
**NOTE:** For voltages above or below listed specification, a qualified electrical contractor must be consulted to install the appropriate transformer to meet the OEM electrical specifications. Refer to *North American Approval* and *CE Approval*.

Electrical connections are made at the rear of the machine. The machine must be connected to the proper electrical supply shown

on the serial plate on the rear of the machine, using copper conductors only.

**IMPORTANT:** Alliance Laundry Systems warranty does not cover components that fail as a result of improper input voltage.

Make sure the correct transformer jumper (208 Volt or 240 Volt) is in place. Refer to the “optional” Electrical Service Conversion label located on the back of the machine near the serial plate. Refer to *Figure 26*.



1. Electrical Service Conversion Label

Figure 26

Machines are equipped with an AC inverter drives requiring a clean power supply, free from voltage spikes and surges. Use voltage monitor to check incoming power.



## Input Power Conditioning

The drive is suitable for direct connection to input power within the rated voltage of the drive. Listed in *Input Power Condition* are certain input power conditions which may cause component damage or reduction in product life. If any of the conditions exist,

install one of the devices listed under the Possible Corrective Action(s).

**IMPORTANT: Only one device per branch circuit is required. It should be mounted closest to the branch and sized to handle the total current of the branch circuit.**

Input Power Condition	Possible Corrective Action(s)
Low Line impedance (less than 1% line reactance)	<ul style="list-style-type: none"> <li>• Install Line Reactor</li> <li>• Isolation Transformer</li> </ul>
Greater than 120 kVA supply transformer	
Line has power factor correction capacitors	<ul style="list-style-type: none"> <li>• Install Line Reactor</li> <li>• Isolation Transformer</li> </ul>
Line has frequent power interruptions	
Line has intermittent noise spikes in excess of 6000V (lightning)	
Phase to ground voltage exceeds 125% of normal line to line voltage	<ul style="list-style-type: none"> <li>• Remove MOV jumper to ground</li> <li>• Install Isolation Transformer with grounded secondary (if necessary)</li> </ul>
Ungrounded distribution system	
240V open delta configuration (stinger leg)*	<ul style="list-style-type: none"> <li>• Install Line Reactor</li> </ul>
<p>* For drives applied on an open delta with a middle phase grounded neutral system, the phase opposite the phase that is tapped in the middle to the neutral or earth is referred to as the “stinger leg,” “high leg,” “red leg,” etc. This leg should be identified throughout the system with red or orange tape on the wire at each connection point. The stinger leg should be connected to the center Phase B on the reactor.</p>	

Table 24


### Input Voltage Requirements


For voltages above or below listed specifications, contact your power company or local electrician.

If machine is intended for four-wire service, a neutral leg must be provided by power company.

If a delta supply system is used on a four-wire model, connect high leg to L3.

**IMPORTANT: Improper connections will result in equipment damage and will void warranty.**

	<h2 style="margin: 0;">DANGER</h2>
<p><b>Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait five (5) minutes before servicing.</b></p>	
<p>W810</p>	

	<h2 style="margin: 0;">DANGER</h2>
<p><b>Hazardous Rotation Speed. Will cause serious injury when controlling AC inverter drive with a parameter unit, safety features are bypassed allowing basket to rotate at high speeds with the door open. Place large sign on front of machine to warn people of imminent danger.</b></p>	
<p>W361</p>	

## Circuit Breakers and Quick Disconnects

Single-phase machines require a single-phase inverse-time circuit breaker. Three-phase machines and V-speed machines require a separate, three-phase inverse-time circuit breaker to prevent damage to the motor by disconnecting all legs if one should be lost accidentally. Refer to *North American Approval* section for model-specific circuit breaker requirements.

**IMPORTANT: All quick disconnects should comply with the specifications. DO NOT use fuses instead of circuit breakers.**

## Connection Specifications

**IMPORTANT:** Connection must be made by a qualified electrician using wiring diagram provided with machine, or according to accepted European Union standards.

Connect machine to an individual branch circuit not shared with lighting or other equipment. Shield connection in a liquid-tight or approved flexible conduit. Copper conductors of correct size must be installed in accordance with National Electric Code (NEC) or other applicable codes.

Use wire sizes indicated in the Electrical Specifications chart for runs up to 50 feet [15 m]. Use next larger size for runs of 50 to 100 feet [15 to 30 m]. Use two sizes larger for runs greater than 100 feet [30 m].

### Single-Phase Connections

For single-phase input, connect L1, L2 and Ground and cap neutral as shown in *Figure 27*.

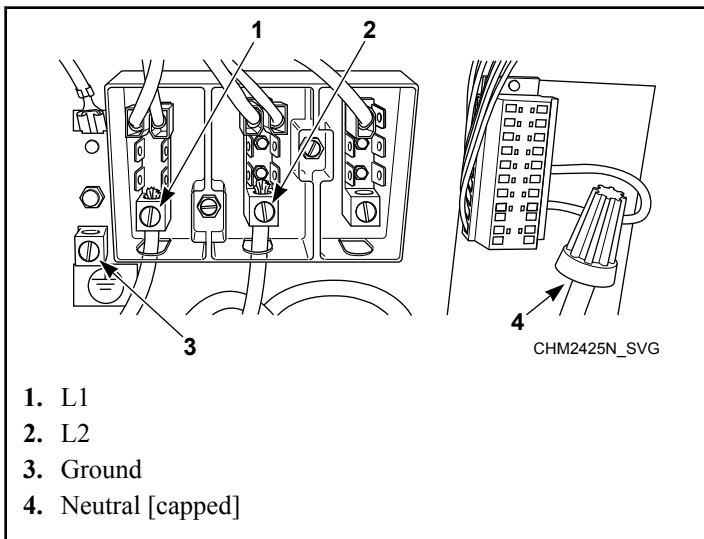


Figure 27

### Three-Phase Connections

For three-phase input, connect L1, L2, L3 and Ground as shown in *Figure 28*.

**IMPORTANT:** If a stinger leg is used for three-phase input, it **MUST** be connected to L3.

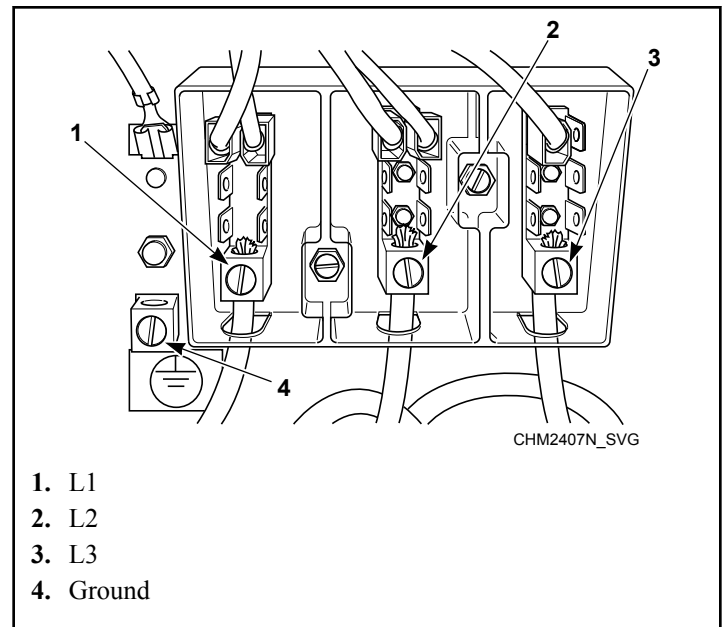


Figure 28

### Grounding

For personal safety and proper operation, the machine must be grounded in accordance with state and local codes. If such codes are not available, grounding must conform to the National Electric Code, article 250 (current edition). The ground connection must be made to a proven earth ground, not to conduit or water pipes.



## WARNING

**Electrically heated machines DO NOT require dual power sources. Do not connect customer power or customer load to the Internal Load Distribution terminal block. Refer to the machine electrical schematic for details.**

W759

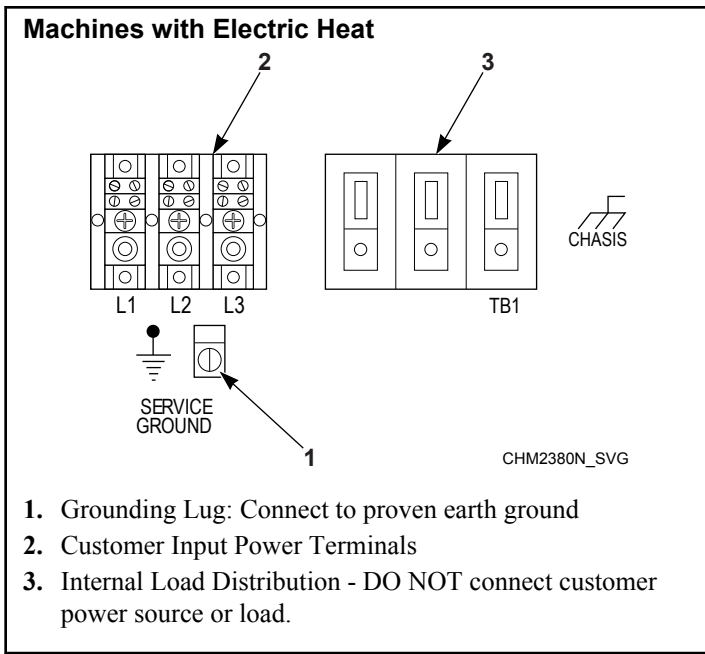


Figure 29

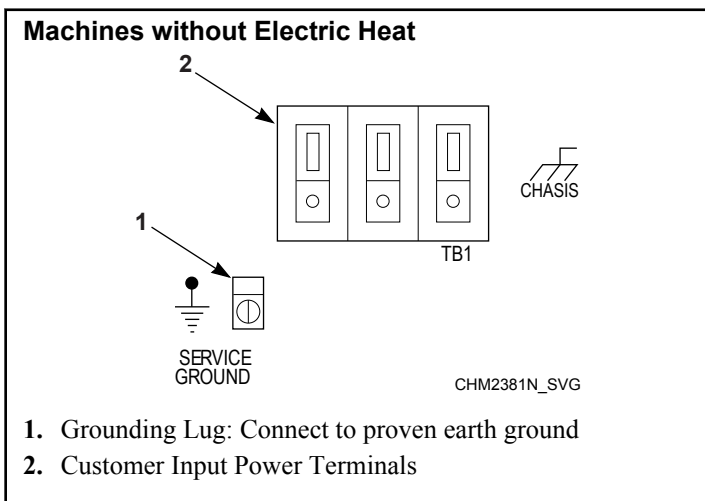


Figure 30

Machines can be converted for lower voltage operation and/or 50 Hz operation. Refer to conversion label by serial plate for details.

### Phase Adder

**IMPORTANT: Do not use a phase adder on any machine.**

### Thermal Overload Protector

For V-speed machines, the inverter drive provides overload protection for the drive motor.

**North American Approval**

20 Pound Capacity Models (North American Approval)									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
F and V-Speed Models (unless otherwise noted)									
B (F-speed)		120	60	1	2	7	15	14	2.5
B (V-speed)		120	60	1	2	8	15	14	2.5
X		200-208	50/60	1/3	2/3	4/3	15	14	2.5
		220-240							
Q	Standard	200-208	50/60	3	3	3	15	14	2.5
	Electric Heat	220-240				21	30	10	6.0
N		440–480	50/60	3	3	2	15	14	2.5
P	Standard	380–415	50/60	3	3	2	15	14	2.5
	Electric Heat					13	15	14	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 25

<b>30 Pound Capacity Models (North American Approval)</b>								
<b>Voltage Designation</b>					<b>Specifications</b>			
<b>Code</b>	<b>Voltage</b>	<b>Cycle</b>	<b>Phase</b>	<b>Wire</b>	<b>Full Load Amps</b>	<b>Circuit Breaker</b>	<b>AWG</b>	<b>mm2</b>
<b>F and V-Speed Models</b> (unless otherwise noted)								
B	120	60	1	2	16	20	12	4
X (F-speed)	200-208	50/60	1/3	2/3	5/4	15	14	2.5
	220-240							
X (V-speed)	200-208	50/60	1/3	2/3	6/4	15	14	2.5
	220-240							

Table 26 continues...

30 Pound Capacity Models (North American Approval)									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
Q	Standard	200–208	50/60	3	3	4	15	14	2.5
	Electric Heat	220-240				22	30	10	6.0
N		440–480	50/60	3	3	3	15	14	2.5
P	Standard	380–415	50/60	3	3	3	15	14	2.5
	Electric Heat					13	15	14	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 26

40 Pound Capacity Models (North American Approval)									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
<b>F and V-Speed Models</b> (unless otherwise noted)									
B		120	60	1	2	16	20	12	4
X (F-speed)		200–208	50/60	1/3	2/3	6/4	15	14	2.5
		220-240							
X (V-speed)		200–208	50/60	1/3	2/3	7/4	15	14	2.5
		220-240							
Q	Standard	200-208	50/60	3	3	4	15	14	2.5
	Electric Heat	220-240				42	50	8	10.0
N	Standard	440-480	50/60	3	3	3	15	14	2.5
	Electric Heat					22	30	10	6.0

Table 27 continues...

40 Pound Capacity Models (North American Approval)									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
P	Standard	380–415	50/60	3	3	3	15	14	2.5
	Electric Heat					25	30	10	6.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 27

60 Pound Capacity Models (North American Approval)									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Break-er	AWG	mm2
F and V-Speed Models (unless otherwise noted)									
X (F-speed)		200–208	50/60	1/3	2/3	9/6	15	14	2.5
		220-240							
X (V-speed)		200-208	50/60	1/3	2/3	10/6	15	14	2.5
		220-240							
Q	Standard	200-208	50/60	3	3	6	15	14	2.5
	Electric Heat	220-240				43	50	8	10.0
N	Standard	440-480	50/60	3	3	4	15	14	2.5
	Electric Heat					22	30	10	6.0
P	Standard	380-415	50/60	3	3	4	15	14	2.5
	Electric Heat					25	30	10	6.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 28

80 Pound Capacity Models (North American Approval)									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
F-Speed Models									
X		200–208	50/60	1/3	2/3	12/8	15	14	2.5
		220-240							
Q	Standard	200-208	50/60	3	3	8	15	14	2.5
	Electric Heat	220-240				72	80	4	25.0
N	Standard	440-480	50/60	3	3	5	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	5	15	14	2.5
	Electric Heat					33	40	8	10.0
V-Speed Models									
X		200-208	50/60	1/3	2/3	15/9	20/15	12/14	4/2.5
		220-240							
Q	Standard	200-208	50/60	3	3	9	15	14	2.5
	Electric Heat	220-240				72	80	4	25.0
N	Standard	440-480	50/60	3	3	6	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	6	15	14	2.5
	Electric Heat					33	40	8	10.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 29

100 Pound Capacity Models (North American Approval)									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Break-er	AWG	mm2
F-Speed Models									
X		200-208	50/60	1/3	2/3	16/9	20/15	12/14	4/2.5
		220-240							
Q	Standard	200-208	50/60	3	3	9	15	14	2.5
	Electric Heat	220-240				74	80	4	25.0
N	Standard	440-480	50/60	3	3	6	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	6	15	14	2.5
	Electric Heat					34	40	8	10.0
V-Speed Models									
X		200-208	50/60	1/3	2/3	16/10	20/15	12/14	4/2.5
		220-240							
Q	Standard	200-208	50/60	3	3	10	15	14	2.5
	Electric Heat	220-240				74	80	4	25.0
N	Standard	440-480	50/60	3	3	7	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	7	15	14	2.5
	Electric Heat					34	40	8	10.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 30



## CE Approval

20 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F and V-Speed Models								
N		440-480	50/60	3	3	2	6	2.5
X		200–208	50/60	1/3	2/3	4/3	6	2.5
		220-240						
Q	Standard	200–208	50/60	3	3	3	6	2.5
	Electric Heat	220-240				21	25	2.5
P	Standard	380–415	50/60	3	3	2	6	2.5
	Electric Heat					13	16	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 31

30 Pound Capacity Models (CE Approval)							
Voltage Designation					Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker mm2
<b>F and V-Speed Models (unless otherwise noted)</b>							
N		440-480	50/60	3	3	3	6 2.5
X (F-speed)		200-208	50/60	1/3	2/3	5/4	6 2.5
		220-240					
X (V-speed)		200-208	50/60	1/3	2/3	7/4	10/6 2.5
		220-240					
Q	Standard	200-208	50/60	3	3	4	6 2.5
	Electric Heat	220-240				22	25 2.5
P	Standard	380-415	50/60	3	3	3	6 2.5
	Electric Heat					13	16 2.5

Table 32 continues...

30 Pound Capacity Models (CE Approval)							
Voltage Designation					Specifications		
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.							

Table 32

40 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F and V-Speed Models (unless otherwise noted)								
N	Standard	440-480	50/60	3	3	3	6	2.5
	Electric Heat					22	25	2.5
X		200–208	50/60	1/3	2/3	7/4	10/6	2.5
		220-240						
Q	Standard	200–208	50/60	3	3	4	6	2.5
	Electric Heat	220-240				42	50	10.0
P (F-Speed)	Standard	380-415	50/60	3	3	3	6	2.5
	Electric Heat					26	32	2.5
P (V-Speed)	Standard	380-415	50/60	3	3	3	6	2.5
	Electric Heat					26	32	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 33

60 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F and V-Speed Models (unless otherwise noted)								
N	Standard	440-480	50/60	3	3	4	6	2.5
	Electric Heat					22	25	2.5
X		200–208	50/60	1/3	2/3	11/7	16/10	2.5
		220-240						
Q	Standard	200–208	50/60	3	3	7	10	2.5
	Electric Heat	220-240				43	50	10.0
P (F-Speed)	Standard	380-415	50/60	3	3	4	6	2.5
	Electric Heat					26	32	2.5
P (V-Speed)	Standard	380-415	50/60	3	3	4	6	2.5
	Electric Heat					26	32	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 34

80 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
<b>F-Speed Models</b>								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					37	40	4.0
X		200-208	50/60	1/3	2/3	12/8	16/10	2.5
		220-240						
Q	Standard	200-208	50/60	3	3	8	10	2.5
	Electric Heat	220-240				72	80	16.0

Table 35 continues...

80 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					33	40	4.0
V-Speed Models								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					37	40	4.0
X		200–208	50/60	1/3	2/3	17/11	20/16	2.5
		220-240						
Q	Standard	200–208	50/60	3	3	11	16	2.5
	Electric Heat	220-240				72	80	16.0
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					33	40	4.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 35


100 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F and V-Speed Models								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					38	40	4.0
X		200-208	50/60	1/3	2/3	17/11	20/16	2.5
		220-240						
Q	Standard	200-208	50/60	3	3	11	16	2.5
	Electric Heat	220-240				74	80	16.0

Table 36 continues...

100 Pound Capacity Models (CE Approval)								
Voltage Designation						Specifications		
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					34	40	4.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 36

## Steam Requirements (Steam Heat Option Only)

	<b>WARNING</b>
<b>Hot Surfaces. Will cause severe burns. Turn steam off and allow steam pipes, connections and components to cool before touching.</b>	
W505	


For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Steam requirements are shown in *Table 37*.

Steam Supply Information		
Steam inlet connection size, in. [mm]	40–100 pound*	1/2 [13]
Number of steam inlets		1
Required pressure, (min. - max. psi [bar])		30–80 [2.0–5.4]
Maximum pressure, psi [bar]		80 [5.4]
* 20 and 30 pound models can be prep for steam and a kit is available for conversion.		

Table 37

**IMPORTANT:** Failure to install the customer supplied steam filter may void the warranty.

## Supply Dispensing

	<b>WARNING</b>
<b>Dangerous Chemicals. May damage eyes and skin. Wear eye and hand protection when handling chemicals; always avoid direct contact with raw chemicals. Read the manufacturer's directions for accidental contact before handling chemicals. Ensure an eye-rinse facility and an emergency shower are within easy reach. Check at regular intervals for chemical leaks.</b>	
W363	

Supply Dispensing	
Number of liquid chemical supply signals (OPL only)	4

Table 38 continues...

Supply Dispensing	
Number of supply compartments	4
Number of external liquid supply connections	5
Liquid supply connection size, in. [mm]	3/8 [8]

Table 38

**IMPORTANT:** Undiluted chemical dripping can damage the machine. All chemical injection supply dispenser pumps and dispenser tubing should be mounted below the washer's injection point. Loops do not prevent drips if these instructions are not followed.

**IMPORTANT:** Failure to follow these instructions could damage the machine and void the warranty.

## External Supplies


For proper communication between the machine and an external chemical supply system, it is important for the low-voltage signal power to be connected properly. The included wiring diagram shows several different options for safe and correct wiring of this interface.

The preferred method for connecting the wiring from the external chemical supply system to the machine is to use the 300mA power of the machine's 24VAC control transformer, which is intended strictly for this purpose. Other voltage and current options are available, but require some wiring changes and must be provided with an external power source. Under no circumstances should the high-voltage machine supply connections or source be used for the communication wiring.

Communication wiring connections, which include a single row of identified terminal blocks, can be found under a service panel at the upper back of the machine.

### Chemical Injection Using Internal 24VAC Control Transformer

**NOTE:** Using the Internal 24VAC 300 Milliamp Control Transformer is recommended by Alliance Laundry Systems.

	<b>CAUTION</b>
<b>Do not attempt to increase fuse rating or alter wiring of external chemical supply terminal strip in such a way that may conflict with the suggested methods provided on the Optional External Supply Wiring Diagram.</b>	
W699	

**IMPORTANT: DO NOT remove the red jumper wire from the terminal strip.**

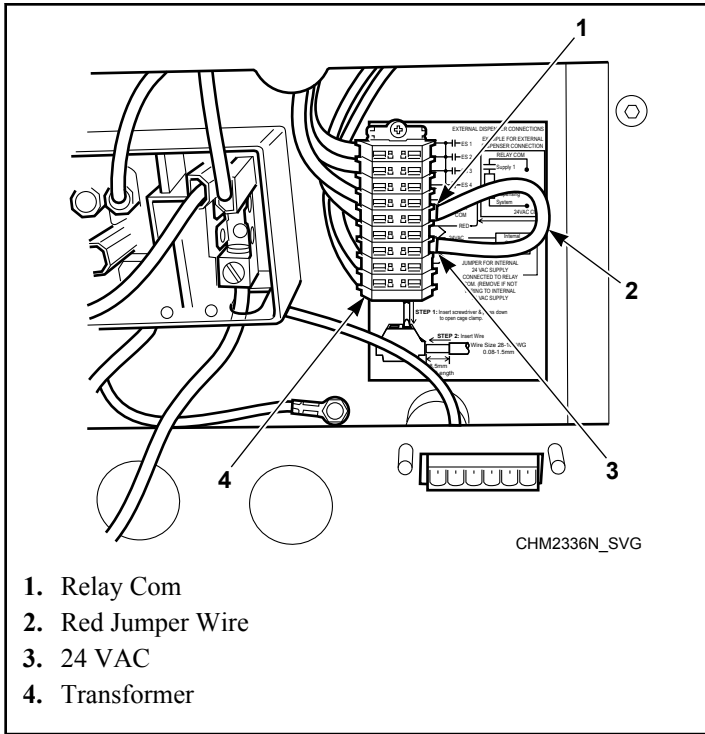


Figure 31

There are 3 terminals necessary for this connection option.

- Terminal “24VAC COM” is used to connect one side of the internal control transformer to the external dispenser input signals common.
- The second terminal is used to connect the other side of the control transformer to the machine output signals common through a red jumper wire between “24VAC” and “RELAY COM”. Refer to *Figure 32*.

**IMPORTANT: Do not use the transformer terminals if an external power supply is used.**

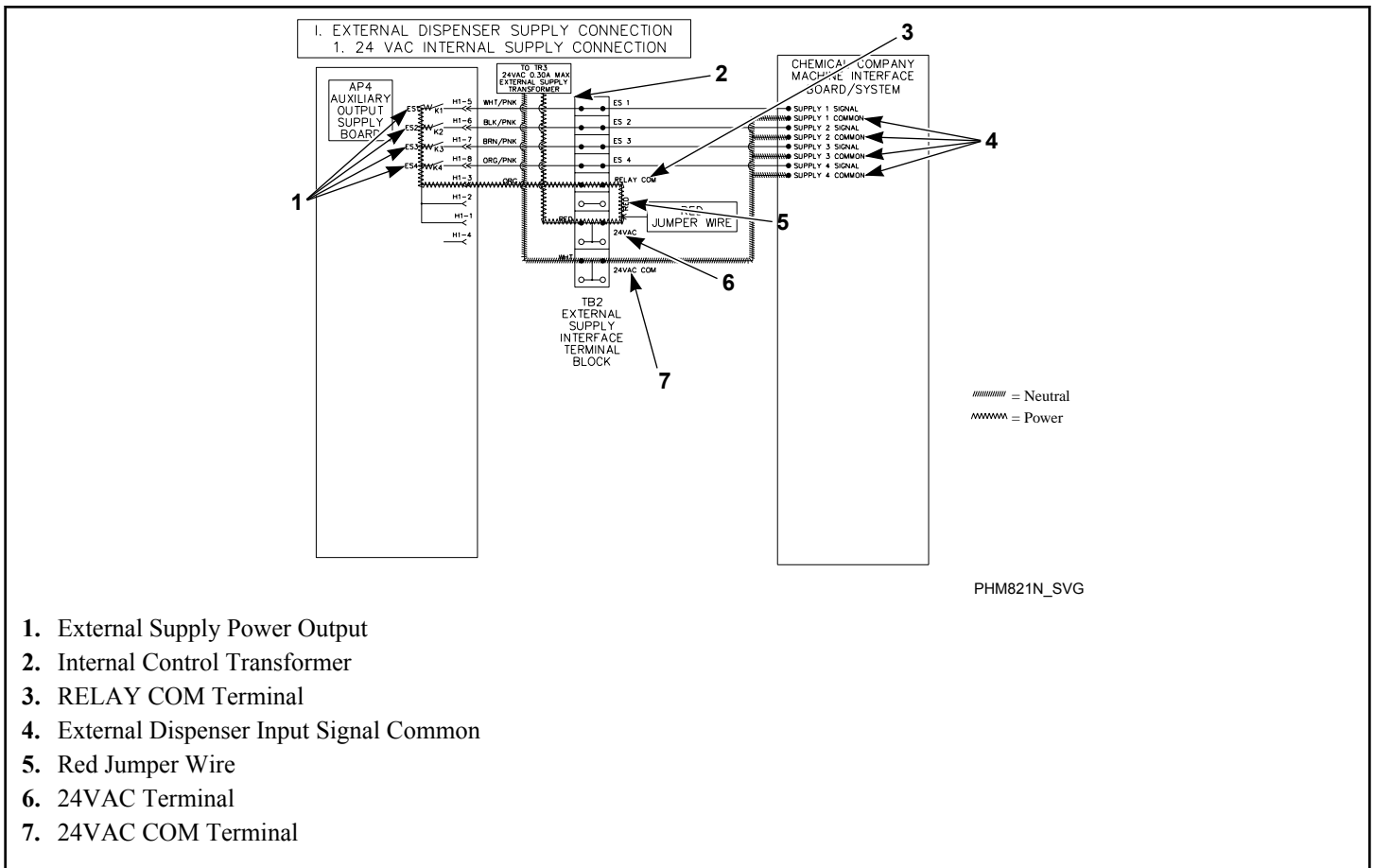


Figure 32

### Chemical Injection Using External AC Power Source

**NOTE:** An External AC Power Source is NOT provided by Alliance Laundry Systems.

**NOTE:** Power for external supplies must not be derived from the high-voltage main power connection point.

**IMPORTANT:** The external power must supply power of 240VAC or less and be protected at 3 Amps or less.

1. Remove the red jumper wire installed by the factory between “24VAC”, and “RELAY COM”.
2. Connect one side of the external power to the “RELAY COM” and the other to the external dispenser input signals common. Refer to *Figure 33*.



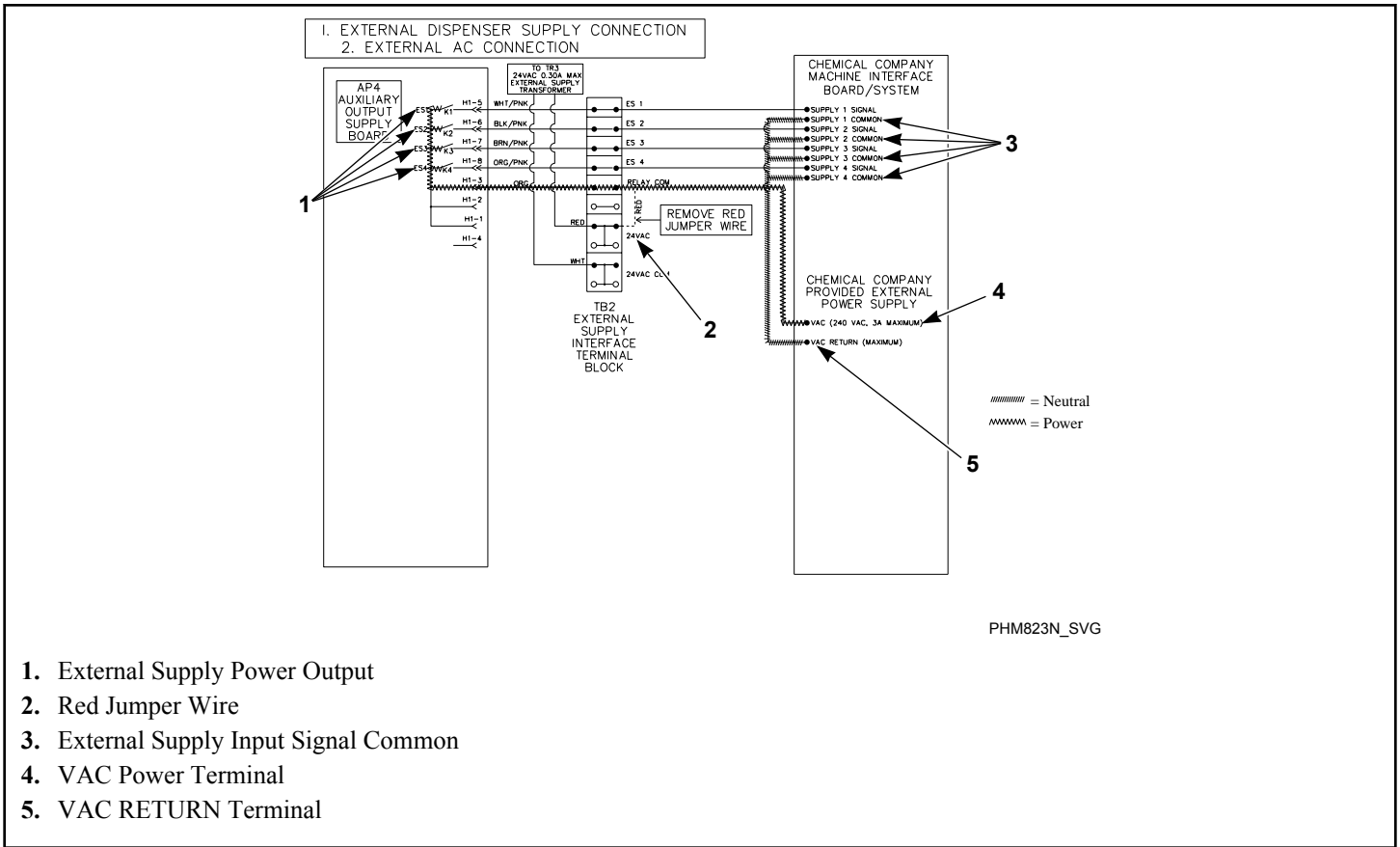



Figure 33



## CAUTION

**Do not attempt to increase fuse rating or alter wiring of external chemical supply terminal strip in such as way that may conflict with the suggested methods provided on the Optional External Supply Wiring Diagram.**

W699

### External Supply Signals

Wash-cycle signals are provided to the external chemical supply equipment and a “wait for the next step” signal can be received from the supply equipment.

For example, if ES1 is selected the K1 contact will close and power will be supplied to Supply 1 Signal. The contact will remain closed for the amount of time programmed in control. Refer to *Figure 34* for Internal Supply Connection or *Figure 35* for External AC Connection.

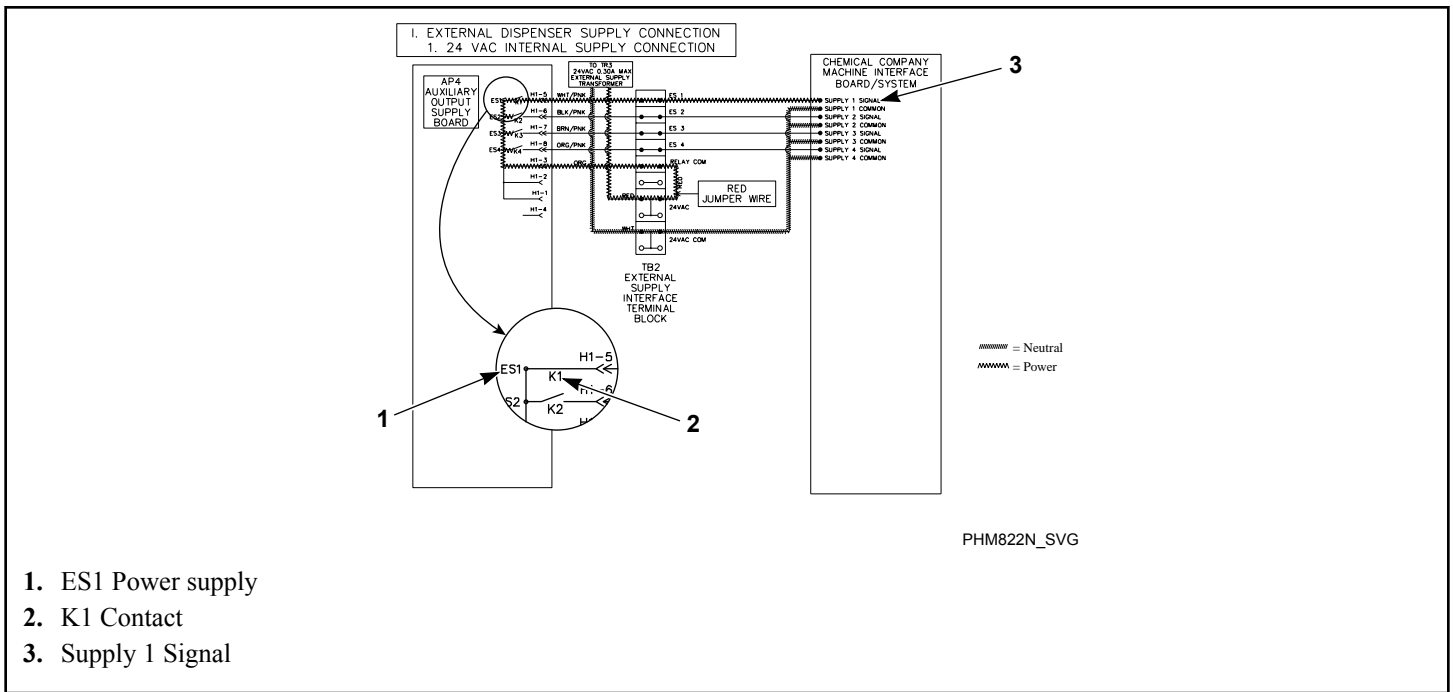


Figure 34

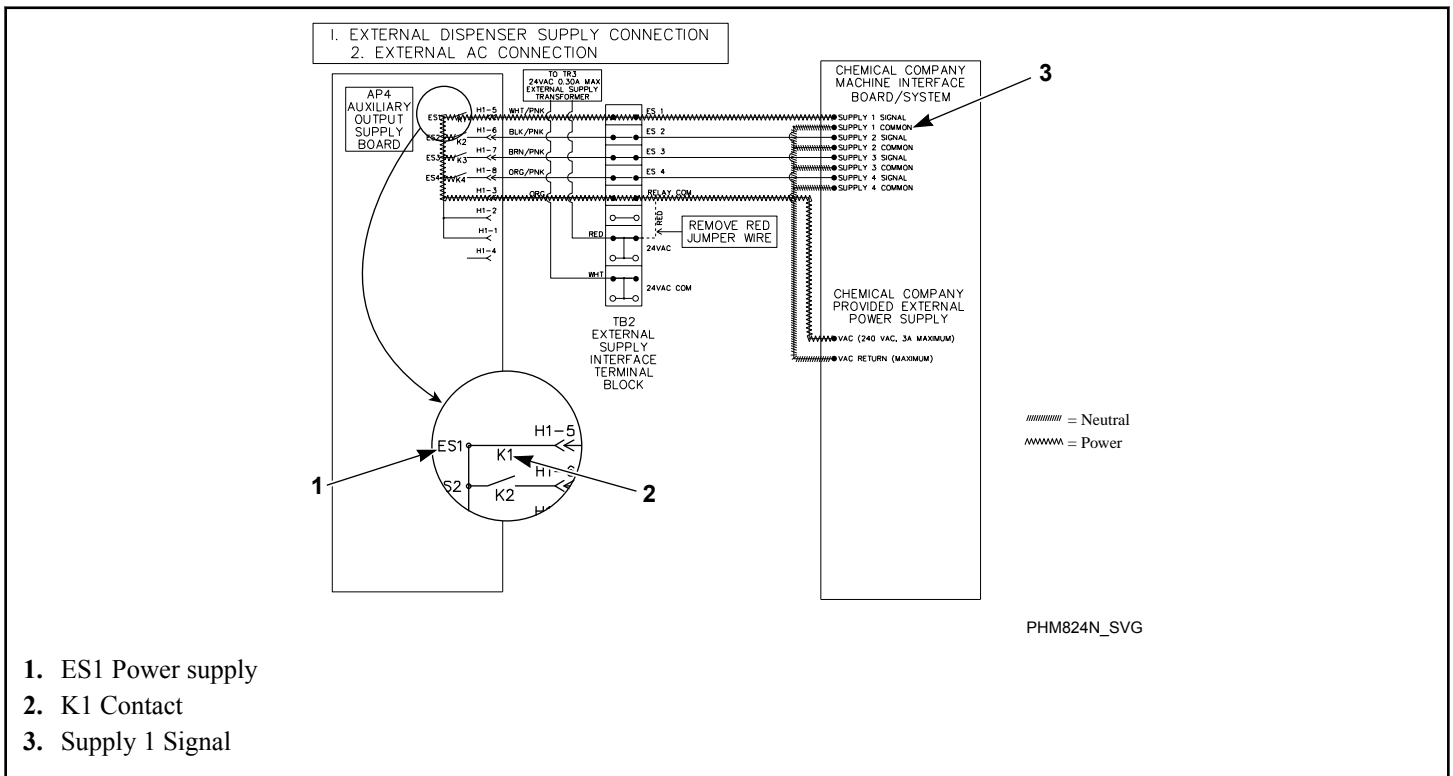


Figure 35

## Connection of External Liquid Supplies

### OPL Models

1. Facing the rear of the machine, locate the five (5) 3/8 inch [10 mm] supply hose connections found on the right-hand side of the valve panel. Refer to *Figure 36*.

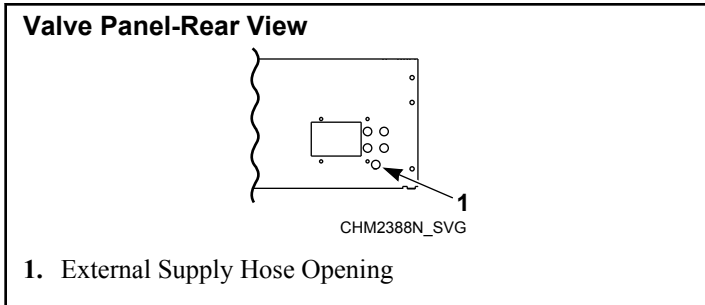


Figure 36

2. Drill through the five (5) plastic holes on the valve panel for the external supply hoses as needed.
3. Remove plastic debris.
4. Attach the external supply hoses to the ports at each of the drilled holes.
5. Secure with proper clamps.

**NOTE: Do not attempt to make chemical injection supply pump electrical connections to points other than those provided specifically for that purpose by the factory.**

# Start Up

## Pallet Jack cover Plate Installation (80 and 100 Pound Models Only)

After machine is fully installed, the optional pallet jack cover plate can be installed.

1. Locate the two holes on the front of the machine base frame. Refer to *Figure 37*.

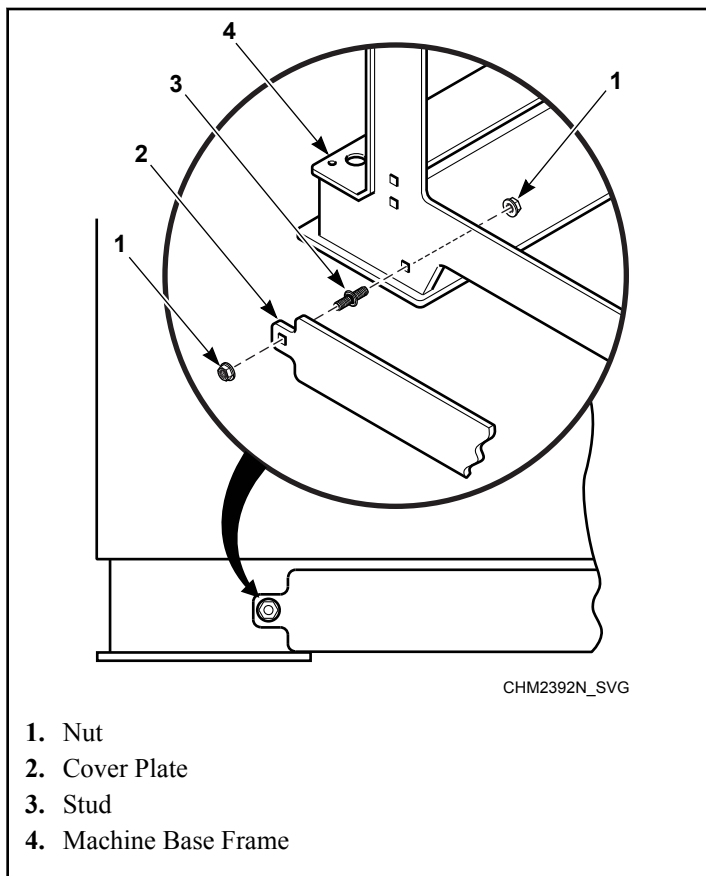


Figure 37

2. Using the hardware from removing plate from back panel, install the cover plate to the machine base frame. The square on stud goes into square hole in machine frame. Refer to *Figure 37*.

## Basket Rotation

Check that basket rotation is counterclockwise in the extract step.

1. If rotation is not counterclockwise, disconnect power to machine.
2. Have a qualified electrician reverse any two motor leads at the inverter terminal block.

# Operation

## Operating Instructions

1. Turn on main power source (circuit breaker).
2. Turn handle clockwise to open. Refer to *Figure 38*.

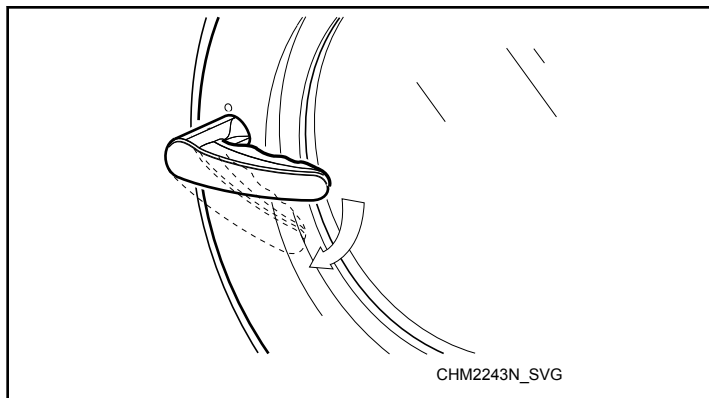


Figure 38

3. Load to capacity whenever possible. DO NOT OVERLOAD. Refer to *Figure 39*.

**NOTE: Underloading can cause out-of-balance conditions that can shorten machine life.**

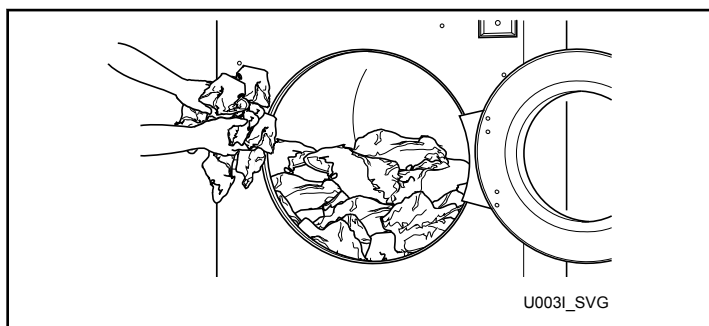


Figure 39

4. Close door and turn handle counter clockwise. Refer to *Figure 40*.

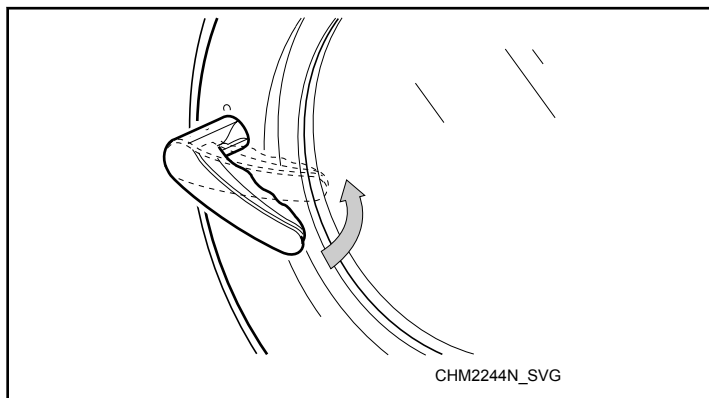


Figure 40

5. The default wash cycle will display.



### WARNING

**To prevent personal injury, avoid contact with inlet water temperatures higher than 125° Fahrenheit [51° Celsius] and hot surfaces.**

W748

6. Select the desired soil setting (select models only), cycle setting (select models only) and cycle/temperature. The LED indicator(s) for that cycle will light.



### CAUTION

**Water cannot be extracted from rubber backed items. To avoid damage to machine from out of balance conditions, do not use a spin (extract) step when washing rubber backed items. Warranty will be voided.**

W880

7. Add liquid and/or powder supplies to supply dispenser. Refer to *Table 39*.

a. Detergent:

- Liquid - Compartment 1 (prewash) + Compartment 3
- Powder - Compartment 1 (prewash) + Compartment 2

b. Bleach:

- Liquid - Compartment 3
- Powder - Compartment 2

c. Softener:

- Liquid - Compartment 4

8. For vended models only, insert coin(s) or card as necessary.

- If the machine is a coin operated unit, add coins. As each coin is added, the vend counts down to the amount remaining.
- If the machine is a card operated unit, insert and remove card per card system instructions.
- If the unit is interfaced to a central/remote pay system, go to the central/remote pay console, make payment and select the machine and follow central/remote pay system instructions.

9. Press the START keypad.

10. During first fill, the desired wash cycle can be changed. After first fill has ended, the wash cycle active at that moment remains the chosen wash cycle.

11. When cycle is complete, display shows "00".

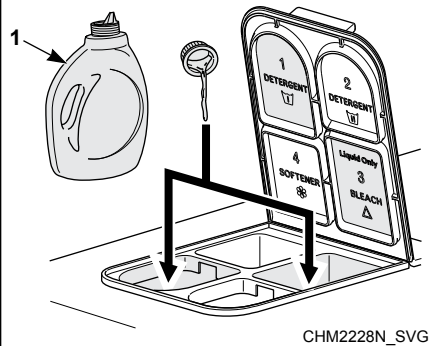
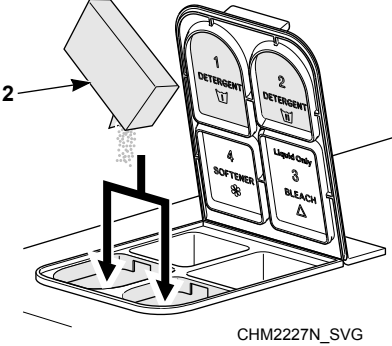
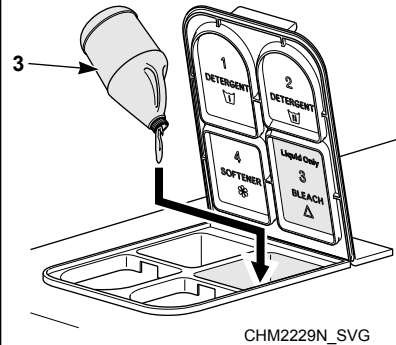
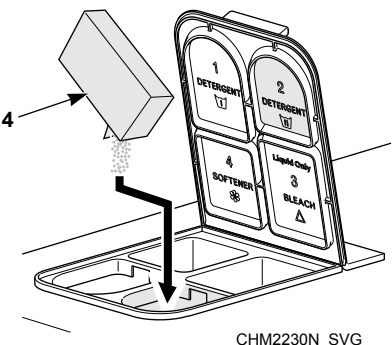
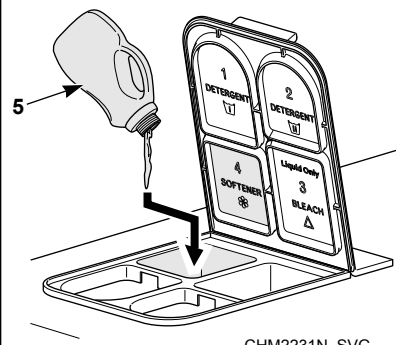

a. DETERGENT	 <p>CHM2228N_SVG</p> <p>1. Liquid Detergent</p>	 <p>CHM2227N_SVG</p> <p>2. Powder Detergent</p>
b. BLEACH	 <p>CHM2229N_SVG</p> <p>3. Liquid Bleach</p>	 <p>CHM2230N_SVG</p> <p>4. Powder Bleach</p>
c. SOFTENER	 <p>CHM2231N_SVG</p> <p>5. Liquid Softener</p>	

Table 39


# Maintenance

## Maintenance

	<b>WARNING</b>
<p>Sharp edges can cause personal injury. Wear safety glasses and gloves, use proper tools and provide lighting when handling sheet metal parts.</p>	
W366R1	

**IMPORTANT:** Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.

## Daily

	<b>WARNING</b>
<p>Do not spray the machine with water. Short circuiting and serious damage may result.</p>	
W782	

**IMPORTANT:** Door lock should be checked daily to ensure proper operation. Also check that all safety and instruction stickers are on the machine. Any missing or illegible safety instructions stickers should be replaced immediately.

### Beginning of Day


1. Check door interlock before starting operation:
  - a. Attempt to start the machine with the door open. The machine should not start.
  - b. Close the door without locking it and start the machine. The machine should not start.
  - c. Attempt to open the door while the cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, disconnect power and call a service technician.

**IMPORTANT:** Door lock should be checked daily to ensure proper operation. Also, check that all safety and instruction stickers are on the machine. Replace as necessary.

2. Inspect water inlet valve hose connections on the back of the machine for leaks.
3. Inspect steam hose connections for leaks (where applicable).

4. Inspect all chemical inlets, lines and connections for leaks.

	<b>WARNING</b>
<p>To reduce the risk of electrical shock, serious injury or death, disconnect the electrical power to washer-extractor before examining the wiring.</p>	
W636	

5. Verify that insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.

### End of Day

1. Clean the door gasket of residual detergent and all foreign matter.
2. Clean the door glass with a damp cloth.
3. Clean automatic supply dispenser lid and general area.
4. Clean the machine's top, front and side panels with mild detergent. Rinse with clean water. DO NOT use products that contain alcohol on the control panel.
5. Inspect and clean basket.
6. Clean the inverter drive box filter(s) weekly or more frequently as needed (where applicable):
  - a. Wash the filter with warm water and allow filter to air dry. As an alternative, the filter may be vacuumed clean.

**NOTE:** Unload the machine promptly after each completed cycle to prevent moisture buildup. Leave loading door open after each completed cycle to allow moisture to evaporate.

## Weekly

1. Check the machine for leaks.
  - a. Start an unloaded cycle to fill the machine.
  - b. Verify that door and door gasket do not leak.
  - c. Verify that the drain valve is operating and that the drain system is free from obstruction. If water does not leak out during the first wash segment, the drain valve is closed and functioning properly.
2. Clean the inverter drive box filter(s) weekly or more frequently as needed (where applicable):
  - a. Wash the filter with warm water and allow filter to air dry. As an alternative, the filter may be vacuumed clean.

**IMPORTANT:** The control module cover and fan filter must be in place for the fan to properly cool the inverter drive. Failure to observe this warning will void the warranty and could lead to expensive inverter drive repair.

3. On machines equipped with an automatic chemical supply system, check chemical connections by inspecting all connections and chemical hoses for leaks or cracks.

**IMPORTANT:** Chemical leaks can quickly cause permanent damage to the machine components and structure.

## Monthly

**NOTE:** Disconnect power to the machine at its source before performing the monthly maintenance procedures.

1. Check belt(s) require replacement or adjustment. Call a qualified service technician in either case.
  - a. Check belt(s) for uneven wear and frayed edges. Belts must not be twisted and must be properly seated on pulleys.
  - b. After disconnecting power to the machine and removing all panels necessary for access to the drive belt, use one of the following methods to verify that the belt is properly tensioned.

**NOTE:** Basket pulley must be rotated three (3) full turns before assessing belt tension after every adjustment.

- **Frequency Gauge.** Tighten eyebolt top nut until the correct frequency (refer to *Table 42*) is obtained mid-span. Torque jam nut to spring bracket to  $20.6 \pm 2$  ft.-lbs. Refer to *Figure 41*.

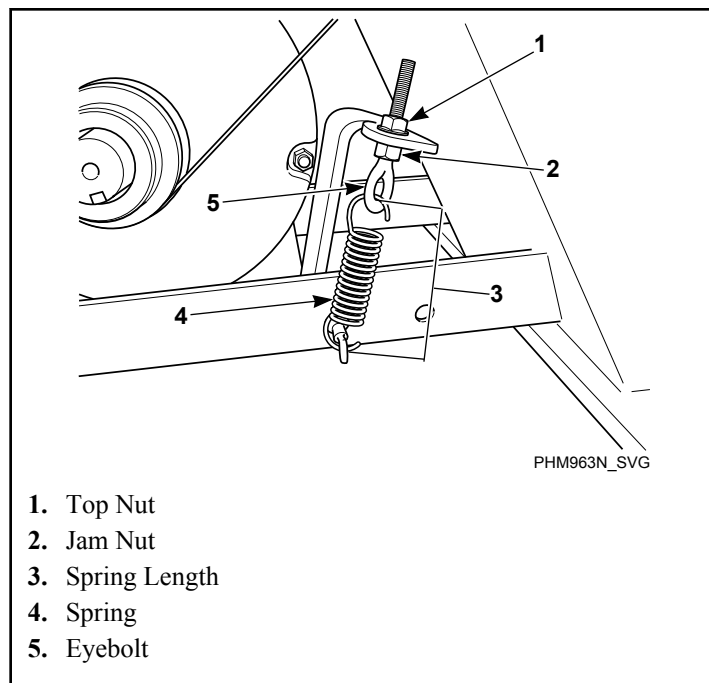


Figure 41

- **Tension Gauge.** Tighten eyebolt top nut until the proper belt gauge (refer to *Table 42*) is obtained mid-span. Torque jam nut to spring bracket to  $20.6 \pm 2$  ft.-lbs. Refer to *Figure 41*.
- **Spring Length.** Tighten eyebolt top nut until the spring measures the correct distance between the hooks. Refer to *Table 40*. Torque jam nut to spring bracket to  $20.6 \pm 2$  ft.-lbs. Refer to *Figure 41*.

Spring Length, in. [mm]	
Model	Distance Between Hooks
20 (2 HP)	5 1/8 [130]
30-40	4 3/4 [121]
60	5 1/16 [129]
80-100	4 3/4 [121]

Table 40

- **Burroughs Gauge (20 pound 1 HP models only).** Use a Burroughs belt gauge to obtain proper tension. Proper belt tension is obtained when belt can be deflected from normal position (refer to *Figure 42*) when moderate pressure of is applied to the point midway between pulleys.



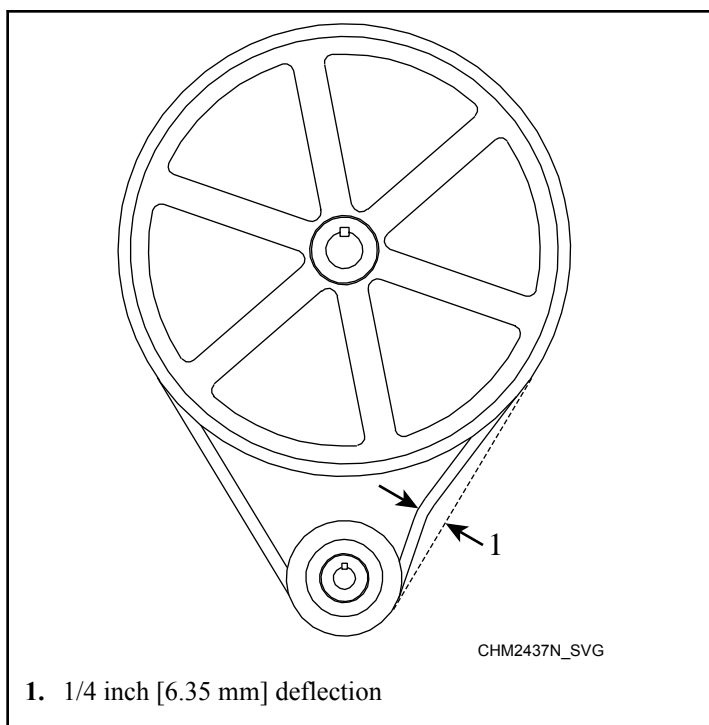


Figure 42

- **Maintain Tension During Belt Removal.** If proper tension is achieved, tape the jam nut in place and loosen eyebolt top nut to release the belt. Replace belt and retighten eyebolt top nut back to jam nut position. Refer to *Figure 41*.
- c. Verify allowable distance of belt from edge of basket pulley. Refer to *Flat-Pulley Alignment*.

Flat-Pulley Alignment, in. [mm]	
Model	Minimum Allowable Distance from Edge
20	.09 [2]
30	.09 [2]
40	.09 [2]
60	.38 [10]

Table 41

Belt Tension by Frequency or Belt Tension Gauge			
Model	Frequency (Hz)	Belt Tension (lbs.)	Tension Gauge (N)
20 (1 HP)	95 ± 2	39.6 ± 1.5	176 ± 7
20 (2 HP)*	98 ± 2	70.2 ± 5.6	312 ± 25
30*	99 ± 4	71 ± 5.6	317 ± 25
40*	87 ± 84	70.3 ± 6.3	313 ± 28
60*	87 ± 4	92.7 ± 8.8	413 ± 39
80-100	102 ± 2	132 ± 5	588 ± 23
* Models made before 10/13/14 are self-tensioning and do not require any adjustment.			

Table 42

2. **For 80 through 100 pound capacity models only**, lubricate bearings and seals each month OR after every 200 hours of operation.

- a. Use a premium-grade lithium-based #2 grease. Never mix two types of grease, such as petroleum and silicone.
- b. Pump the grease gun slowly, permitting only 2 strokes for each bearing grease fitting.

**NOTE: Do not pump the grease gun until grease comes out of the bearing housing. This can result in over lubrication, causing damage to bearings and seals.**

3. Check overflow hose and drain hose for leaks.
4. Check the supply dispenser hoses and hose connections.
5. Clean inlet hose filter screens:
  - a. Turn water off and allow valve to cool, if necessary.
  - b. Unscrew inlet hose and remove filter screen.
  - c. Clean with soapy water and reinstall. Replace if worn or damaged.

## Quarterly

**NOTE: Disconnect power to the machine at its source before performing the quarterly maintenance procedures.**

1. Tighten door hinges and fasteners, if necessary.
2. Tighten anchor bolts, if necessary.
3. Tighten anchor bolts as specified in the *Machine Mounting and Grouting* section, if necessary.
4. Verify that the drain motor shield is in place and secure, if so equipped.

- 5. Clean customer-supplied steam filter, where applicable. Refer to *Figure 43* .
  - a. Turn off steam supply and allow time for the valve to cool.
  - b. Unscrew cap.
  - c. Remove element and clean.
  - d. Replace element and cap.

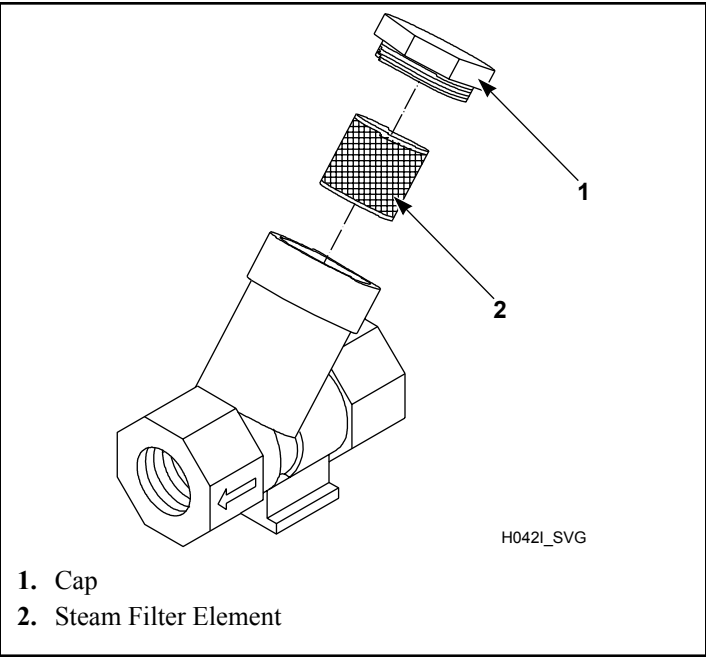


Figure 43

- 6. Check the bearing mounting bolts to make sure they are torqued properly. Refer to *Torque* .

Torque, ft-lbs.		
Model	Bearing	Torque
20	All	41
30-40	All	101
60	All	201
80-100	All	357

Table 43

- 7. Tighten motor mounting bolt locknuts and bearing bolt locknuts.
- 8. Vacuum lint from motor vents.
- 9. Clean all electronic boards of moisture and dust with canned air.
- 10. Verify the insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.
- 11. Clean inverter drive cooling fan blades (where applicable).

## Care of Stainless Steel

- Remove dirt and grease with detergent and water. Thoroughly rinse and dry after washing.
- Avoid contact with dissimilar metals to prevent galvanic corrosion when salty or acidic solutions are present.
- Do not allow salty or acidic solutions to evaporate and dry on stainless steel. Wipe clean of any residues.
- Rub in the direction of the polish lines or “grain” of the stainless steel to avoid scratch marks when using abrasive cleaners. Use stainless steel wool or soft, non-metal bristle brushes. Do not use ordinary steel wool or steel brushes.
- If the stainless steel appears to be rusting, the source of the rust may be an iron or steel part not made of stainless steel, such as a nail or screw.
- Remove discoloration or heat tint from overheating by scouring with a powder or by employing special chemical solutions.
- Do not leave sterilizing solutions on stainless steel equipment for prolonged periods of time.
- When an external chemical supply is used, ensure no siphoning of chemicals occurs when the machine is not in use. Highly concentrated chemicals can cause severe damage to stainless steel and other components within the machine. Damage of this kind is not covered by the manufacturer’s warranty. Locate the pump and tubing below the machines’s injection point to prevent siphoning of chemicals into the machine.

# Disposal of Unit

This appliance is marked according to the European directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Refer to *Figure 44*. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. Ensuring this product is disposed of correctly will help prevent potential negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact the local city office, household waste disposal service, or the source from which the product was purchased.

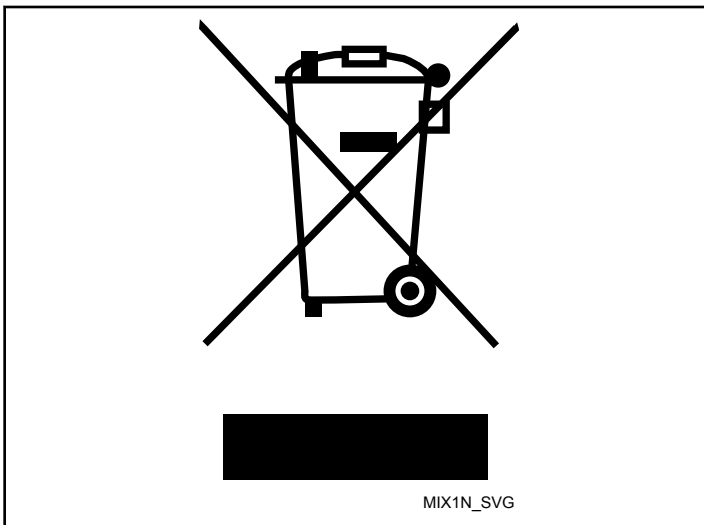


Figure 44